THE MOTIVATION AND IMPACT OF OUTWARD FOREIGN DIRECT INVESTMENT IN CHINA

By

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Certificate of Originality

I hereby declare that this doctoral thesis is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written nor material which has been accepted for the award of another degree or diploma, except where due acknowledgement has been made in the text.

Chi Chung PUN

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Abstract

The Chinese government believed that encouraging the country's enterprises to invest overseas would strengthen the competitiveness of domestic firms, which would, in turn, promote Chinese economic growth. However, according to theory, the Chinese firms investing overseas would require certain firm-specific advantages which they would use as leverage during the internationalisation process. Herein lies the problem, Chinese enterprises have been often perceived as lacking specific strengths.

This thesis includes three empirical studies, which aim to explore the latest developments of Chinese outward foreign direct investment by investigating how Chinese enterprises acquire crucial firm-specific advantages and understand the consequence towards the local economy. The first contribution of this study focuses on Chinese investments in 34 OECD countries, with the aim of identifying the key determinants of outward investment. The work details an examination of the validity of a wide range of factors believed to underpin the motivation driving foreign direct investment.

The second empirical study aims to understand the motivations of investing into Hong Kong SAR by conducting a firm level study through a survey and interviews. The

results indicate the Chinese enterprises expect to add value by investing in Hong Kong SAR, where a platform is provided for equipping firm-specific advantages that may speed up the progress of internationalisation.

The third empirical study evaluates the impact of Chinese outward foreign direct investment on the home economy from productivity perspectives. The findings on productivity indicate a positive impact of outward foreign direct investment on total productivity factors and provide evidence to indicate success in the catching up effect in China.

The results obtained by studying the motivations of Chinese overseas investments and the impact of the investments on the local economy may encourage further studies in the area. More importantly, the significant findings have important managerial and government policy implications.

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List of Abbreviations

APEC	:	Asia-Pacific Economic Cooperation
ASEAN	:	Association of Southeast Asian Nations
CEPA	:	Closer Economic Partnership Arrangement
CRS	:	Constant Returns to Scale
HKEx	:	Hong Kong Stock Exchange
FSA	:	Firm-specific Advantage
FDI	:	Foreign Direct Investment
GDP	:	Gross Domestic Product
GEM	:	Growth Enterprise Market
GVA	:	Gross Value Added
IFDI	:	Inward Foreign Direct Investment
IMF	:	International Monetary Fund
IPO	:	Initial Public Offering
ISIC	:	International Standard Industry Classification
M&A	:	Merger and Acquisition
MPS	:	Material Product System
MOFCOM	:	Ministry of Commerce
MFTEC	:	Ministry of Trade and Economic Cooperation
MNE	:	Multinational Enterprise
NBSC	:	National Bureau of Statistics of China
NOI	:	Net Outward Investments
OFDI	:	Outward Foreign Direct Investment
OECD	:	Organisation for Economic Co-operation and Development
PBOC	:	People's Bank of China
PECC	:	Pacific Economic Cooperation Council
PIM	:	Perpetual Inventory Method
R&D	:	Research and Development
SAFE	:	State Administration of Foreign Exchange
SAR	:	Special Administrative Region
SASAC	:	State-Owned Assets Supervision and Administration Commission
SDRC	:	State Development and Reform Commission
TFP	:	Total Factor Productivity
UNCTAD	:	United Nations Conference on Trade and Development
VIE	:	Variable Interest Entity
WTO	:	World Trade Organization

Chapter 1 :

The Motivation and Impact of Chinese Outward Foreign Direct Investment

1.1 Background

China has been one of the fastest growing economies in the world over the last four decades mainly due to the tremendous success of China's economic reforms and the rapid economic growth under the "market-oriented" policies that has facilitated an economic transformation in the Chinese economy. However, 40 years before, the economic system was closed and highly centralized, and resource allocation was directed by the government's administrative bodies through five national plans rather than by a market mechanism.

The Chinese government has tried various measures to stimulate economic growth through the practice of the "Open Door Policy" since 1978. These measures were based on the Chinese government's understanding that a country's economic growth rate is determined by three factors: 1) the increase of various production factors, especially capital; 2) the advancement of industrial structures from low-value-added industries to high-value-added industries; and lastly 3) the technological innovation of the country

(Lin et al., 2003). The Chinese government believed that foreign direct investment (FDI) could contribute to these three factors for economic development. Thus, FDI became the primary tool for promoting economic development after the promulgation of the Equity Joint Venture Law in late 1979, which granted legal status to FDI in China and started the journey of investment development. At the very beginning of the reform, most of the FDI were export oriented, and MNEs utilized the factor endowment of labour and moved the production base to China. Recently the export products are not limited to labour intensive products, but also a wide range of highly sophisticated products. According to Rodrik (2006), export activities support economic growth and set off a powerful demonstration effect when local investors learn from FDI and discover a number of high productivity exportable activities. Other investors are drawn in, and as the sector and the suppliers in China expand, the economy's resources are pulled from lower productivity activities into higher productivity activities. This kind of growth driven by differential productivity across sectors and structural change lies at the root of China's economic transformation.

Although China had significant advancement in FDI and export trade, the Chinese government identified a possible emergency by foreseeing a high uncertainty of further growth; therefore, the government made a strategic decision in the late 1990s that confirmed the key targets in the 10th Five-Year Plan were to redefine and upgrade the

industry structure as well as to strengthen international competitiveness. Therefore, the "Go Global" outward foreign direct investment (OFDI) policy which supported the 10th Five-Year Plan to strengthen the core competences of local enterprises was proposed at that time, and the policy encouraged Chinese firms to invest overseas. The establishment of this policy was the beginning of a strategic move to redraw the blueprint of Chinese economic development by the internationalisation of Chinese firms to become multinational enterprises (MNEs).

In 2016, the number of Chinese MNEs increased to 24,400 worldwide, and USD 1,357.39 billion OFDI stocks were accumulated abroad; 80 percent of the OFDI stocks were established after the financial crisis in 2008. After the crisis, the growth rate of Chinese OFDI was even higher, and the OFDI flows in 2016 were three times the 2009 level. Besides the change in scale of OFDI in the past decade, there have also been major trends in Chinese OFDI in terms of geographic perspective. Firstly, Hong Kong SAR has maintained its dominant role as the largest host region of Chinese OFDI, and the role continues to strengthen. Secondly, the total proportion of Chinese outflows in OECD countries rose from 14.5 percent in 2010 to 19.2 percent in 2016.

One of the explanations for rapid growth during and after the financial crisis is the deregulation of the OFDI policy insofar as the Chinese government relaxed several

finance restrictions and offered different types of benefits to encourage OFDI from private enterprises, particularly firms in high tech industries. There were also changes within the bureaucratic administration and reforms in state owned enterprises which also facilitated the growth of Chinese OFDI. All of these changes were aimed at accelerating the upgrading process of the economic structure during and after the crisis, which was the goal of the 10th Five-Year Plan.

Another possible reason for the increase in Chinese OFDI is due to a goal conflict between the Chinese government and the MNEs, which is classified as an escape force or avoidance investment according to Boddewyn and Brewer (1994). Chinese MNEs took advantage of the changes in bureaucratic administration and conducted OFDI in order to reduce constraints in China. These two potential explanations are supported by Luo and Tung (2007), who propose the following two propositions related to the interaction between institutional forces and MNEs' strategies. Firstly, MNEs pursued international expansion aiming at securing preferential treatment offered by governments. Secondly, the expansion was a springboard to alleviate domestic institutional constraints.

The above phenomena of strong growth in Chinese OFDI in the previous decade, however, challenged the explanatory power of conventional theory in foreign direct

investment, which explains that firms investing overseas leverage certain firm-specific advantages (FSAs) during the internationalisation process. Lacking FSAs, especially the skills in management and systems integration is a competitive disadvantage of Chinese MNEs in the global market and may explain why they spend a long time and expend considerable effort to obtain knowledge and capabilities (Nolan, 2005, Thun, 2006, Rugman and Li, 2007, Rugman, 2008). Therefore Chinese MNEs are more likely to become knowledge seekers in order to gain basic knowledge and technology through OFDI in strategic assets and improve the international competitiveness of domestic companies (Buckley et al., 2008).

In the literature on Chinese OFDI, very few empirical studies have been conducted to explain the latest changes of the Chinese OFDI phenomena mentioned above. Further studies are definitely required, and this thesis aims to address the current knowledge gap in these areas by conducting three empirical studies.

1.2 Research Objectives of the Empirical Studies

In the dynamic changes of Chinese OFDI, there are several interesting areas which can be further explored. In this thesis, attention is primarily focused on the critical latest

development stage of Chinese OFDI and investigated through empirical studies. The thesis has three research questions.

1. Is there a relationship between the growth of Chinese OFDI in OECD countries and strategic asset seeking through Chinese OFDI?

2. What reasons are there for the substantial Chinese OFDI flows to Hong Kong SAR? What is the motivation for this OFDI?

3. How effective has the Chinese government been in encouraging Chinese OFDI by the "Go Global" policy since the late 1990s?

Studies in the above three areas which explain the latest Chinese OFDI phenomena would provide a good foundation for further investigation. To answer the above research questions, three empirical studies are conducted.

The focus of the first research question is the strategic asset seeking of Chinese OFDI in OECD countries. It aims to identify the determinants of strategic asset seeking motivation and examine the impact of the Chinese government policy when Chinese enterprises invest in 34 OECD countries. As elaborated previously, Chinese enterprises are likely to gain basic knowledge and technology through strategic asset seeking OFDI

by mergers and acquisitions, meanwhile, the Chinese OFDI have increased significantly in OECD countries, where the technological level is relatively high in the world. However, these two phenomena have not been connected through empirical studies. Other than that, the research question also focuses on the impact of government policies on the level of Chinese overseas investment. After the financial crisis, the Chinese government designed several policies particularly for technology companies; thus, this study aims to identify the interrelationship among strategic asset seeking OFDI, Chinese OFDI in OECD countries and government policies in a systematic way.

The second question is also an important research area in Chinese OFDI. This study aims at understanding the overall motivation of Chinese OFDI investing in Hong Kong SAR. The Chinese OFDI in Hong Kong SAR was previously overlooked because researchers considered the OFDI as round-tripping investments, which occurs when capital invests out from a home country to a host country, and reinvests back to the home country. However, based on the official Chinese outflow statistics, Hong Kong SAR takes a substantial proportion, 58.2 percent, of the 2016 Chinese OFDI flows, so without further investigation, a complete picture of Chinese OFDI is not possible. It is expected that misunderstandings about Chinese OFDI in Hong Kong SAR can be clarified after the real intentions for round-tripping investments and other motivations

in Hong Kong SAR are clarified in this study. If this is the case, the study may provide empirical evidence to support the propositions of Luo and Tung (2007).

Both the first and second research questions focus on the motivations of Chinese OFDI, and aim to provide answers from the experience in OECD countries and Hong Kong SAR. The third question aims to identify the consequences after conducting Chinese OFDI. The Chinese government implemented the "Go Global" policy in order to strengthen the comparative advantage of China, meanwhile, the government proposed many favourable policies to encourage Chinese strategic asset seeking OFDI, for example in merger and acquisitions, deregulation of funding, and exchange control. Some of these policies set a clear target of OFDI for technical development in particular countries. Thus, an empirical study to evaluate the effectiveness of the strategic asset seeking OFDI is worthwhile, and it could establish the catch-up effect of OFDI. Therefore, an evaluation of the impact of OFDI on the Chinese economy is a focus of the third research question, particularly on the productivity perspective at the industry level.

1.3 Structure of the Thesis

The thesis consists of eight chapters, including this introductory chapter. Chapter 2 reviews the key theoretical works of FDI such as the determinants of FDI, motivation of FDI, and the impact of FDI on home and host countries. These reviews are essential and highly relevant to the proposition and theoretical framework made in the three empirical chapters in the thesis.

Chapter 3 starts from the research paradigm and then extends to research methodology; it explains the interrelation and the implication of the research philosophies to the three empirical studies respectively.

Chapter 4 is a contextual chapter, which provides factual data and information regarding Chinese OFDI. Additionally, the trends and latest developments of Chinese OFDI are discussed, which also provides background information for the three empirical chapters.

Chapter 5 develops the empirical study of Chinese OFDI. It identifies the determinants of the strategic asset seeking motivation and examines the impact of Chinese government policy when Chinese enterprises invest in 34 OECD countries. It elaborates on the latest phenomena related to Chinese OFDI, such as the increased importance of strategic asset seeking OFDI. Connections between the strong influence of the Chinese

government and increased proportion of Chinese OFDI in OECD are tested in regression models.

Chapter 6 describes the findings of the second research question, which is a firm-level study aiming to shed light on the motivation of Chinese OFDI in Hong Kong SAR by conducting primary research. In this chapter, Chinese OFDI in Hong Kong SAR is investigated from a motivation perspective. Furthermore, representatives of subsidiaries of Chinese MNEs in Hong Kong SAR were interviewed to help understand the role of Hong Kong SAR in the internationalisation of Chinese MNEs.

Chapter 7 investigates the impact of Chinese OFDI in the home country (China) from a productivity perspective. From the productivity perspective, an overall evaluation of the effectiveness of knowledge transfer generated by Chinese OFDI is conducted.

Lastly, Chapter 8 is the conclusion, which summarises and discusses principal findings from the three empirical studies and draws the conclusion of the thesis. Additionally, a discussion of contributions of the thesis and the potential for future research are made in the chapter, which gives insight for future research. Last but not the least, the implications for managerial and government policy are discussed.

Chapter 2 :

Literature Review of The Motivation for FDI and the Impact of FDI

2.1 Introduction

FDI is a key research topic in international business; the dynamic changes in the field due to globalization has provided a vast amount of theoretical and empirical works which have been conducted to explain the trends and phenomena of FDI, including research that provides a foundation of knowledge on Chinese OFDI. As such, a good understanding of the theoretical and empirical works are important. Firstly, it enables a researcher to review the current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic, which helps the researcher to evaluate the findings of previous research. Secondly, the review facilitates the researcher to identify the current knowledge gap, which provides a basis for the reasons behind selecting a particular research question for future research.

The three empirical studies in this thesis all relate to Chinese OFDI, and the theoretical works are based on the concept of FDI at the macro level. Substantial knowledge in this field has been built through the experience of developed countries, then extended to emerging markets; however, China OFDI research is still at an early stage.

This chapter is organised as follows: Section 2.2 introduces the concept of FDI; section 2.3 describes the motivation of FDI; section 2.4 illustrates the investment development path; section 2.5 illustrates the relationship between FDI and economic growth; section 2.6 introduces the theoretical and empirical works with FDI impact on the home country; section 2.7 describes the empirical studies of Chinese OFDI; finally, section 2.8 is the conclusion for the chapter and describes the implications of the literature review for this empirical study.

2.2 The Concept of Foreign Direct Investment

Traditionally the expansion of a firm's production outside its national boundary is classified as FDI; however, FDI is more than production, and it refers to the category of international investment that reflects the objective of a resident entity in one economy obtaining a lasting interest in an enterprise resident in another country according to the International Monetary Fund[1](IMF). It should be noted that even when there is general agreement on the definition of the concepts of FDI, different manuals and documentations may contain language that can lead to differences in interpretation,

[1] The definition is based on the web page of Direct Investment Methodology of International Monetary Funds (https://www.imf.org/external/np/sta/di/index.htm)

particularly in statistics. Also, without clear classification of the type of FDI, the real intention of FDI activities conducted by MNEs might be misunderstood.

There are different definitions and understandings of FDI. The official OECD Benchmark Definition of Foreign Direct Investment - 4th Edition[2] definition of FDI is a category of investment that reflects the objective of establishing a lasting interest by a resident enterprise in one economy (direct investor) in an enterprise (direct investment enterprise) that is resident in an economy other than that of the direct investor. The lasting interest implies the existence of a long-term relationship between the direct investor and the direct investment enterprise as well as a significant degree of influence on the management of the enterprise. The direct or indirect ownership of 10 percent or more of the voting power of an enterprise resident in one economy by an investor resident in another economy is evidence of such a relationship. However, some researchers argue that in some cases, ownership of as little as 10 percent of the voting power may not lead to the exercise of a significant influence while on the other hand, an investor may own less than 10 percent but have an influential voice in the management. Nevertheless, the recommended methodology does not allow any

[2] The definition is learnt from the web page of OECD http://www.oecd.org/daf/inv/investmentstatisticsandanalysis/fdibenchmarkdefinition.htm

variation of the 10 percent threshold and recommends its strict application to ensure statistical consistency across countries.

The above definition ensures a single point of reference for researchers and users of FDI statistics and provides a clear guidance for individual countries compiling direct investment statistics. The three components of FDI are equity capital, reinvested earnings and intra-company loans. Equity capital refers to the share of investment value of the MNEs in an enterprise in the foreign country. Reinvested earnings include the sum of direct investor's share of earnings not distributed as dividends by subsidiaries or associates, as well as the earnings of branches not remitted to the direct investor. Lastly, intra-company loans cover the borrowing and lending which includes the funds between direct investors and subsidiaries, branches and associates.

Different types of FDI can be identified by using different criteria. It is important to identify the type of FDI because each type of FDI refers to a different strategy of MNEs in their overseas operations, and the MNEs bear different risks and uncertainty during their internationalisation process. Moreover, the type of FDI creates different impacts on the host and home countries from a macro perspective.

One criterion is to define the flows either as inward or outward. Inward FDI (IFDI) is FDI made by a foreign firm in a home country. Meanwhile, outward FDI (OFDI) is an internationalization strategy when domestic firms expand their business operations in a foreign country. The concept of IFDI and OFDI have an impact on FDI flows in a particular economy. According to OECD[3], data on FDI flows are on a net basis, which is capital transactions' credits less debits between direct investors and their foreign affiliates. IFDI flows by a partner country record the value of cross-border direct investment transactions received by the reporting economy during a year, by source country. It represents transactions that increase the investments of foreign investors from a source country that have enterprises resident in the reporting economy, less transactions that decrease the investments of foreign investors in resident enterprises. Meanwhile, OFDI flows by a partner country record the value of cross-border direct investment transactions from the reporting economy during a year, by destination country or region.

Another criterion is to define the FDI by the value chain and classify the FDI as horizontal or vertical. Horizontal FDI means the MNEs duplicate their home country activities in a host country via FDI. Meanwhile, vertical FDI refers to the MNEs moving

[3] https://data.oecd.org/fdi/inward-fdi-flows-by-partner-country.htm#indicator-chart

upstream or downstream along the value chains via FDI. However, this criterion is not highly relevant to the discussion in this study.

In reality, the growth of FDI slowed during the financial crisis in 2008 and 2009 due to uncertain business prospects and the economic downturn in developed countries. Global OFDI flows dropped 13.5 percent in 2008 in particular due to the reduction of OFDI flows from Europe and the U.S.; the changes were -25.7 percent and -17.6 percent respectively according to World Investment Report 2009. In contrast, OFDI flows from emerging countries increased 2.5 percent in 2008, which amounted to around 18 percent of total OFDI flows and were mainly contributed by Russia and China. Recently, the OFDI flows from developed countries has recovered with investments of USD 1.1 trillion in 2015, a 33 percent increased from 2014. However, emerging countries reduced OFDI flows according to World Investment Report 2016.

In Figures 2.1 and 2.2, a comparison of the top 10 investors in OFDI flows and OFDI stocks are shown. Based on these two figures, China was second in OFDI flows globally in 2015 and ranked eighth from a stocks perspective.

Figure 2.1: OFDI flows of major countries in 2010 and 2015

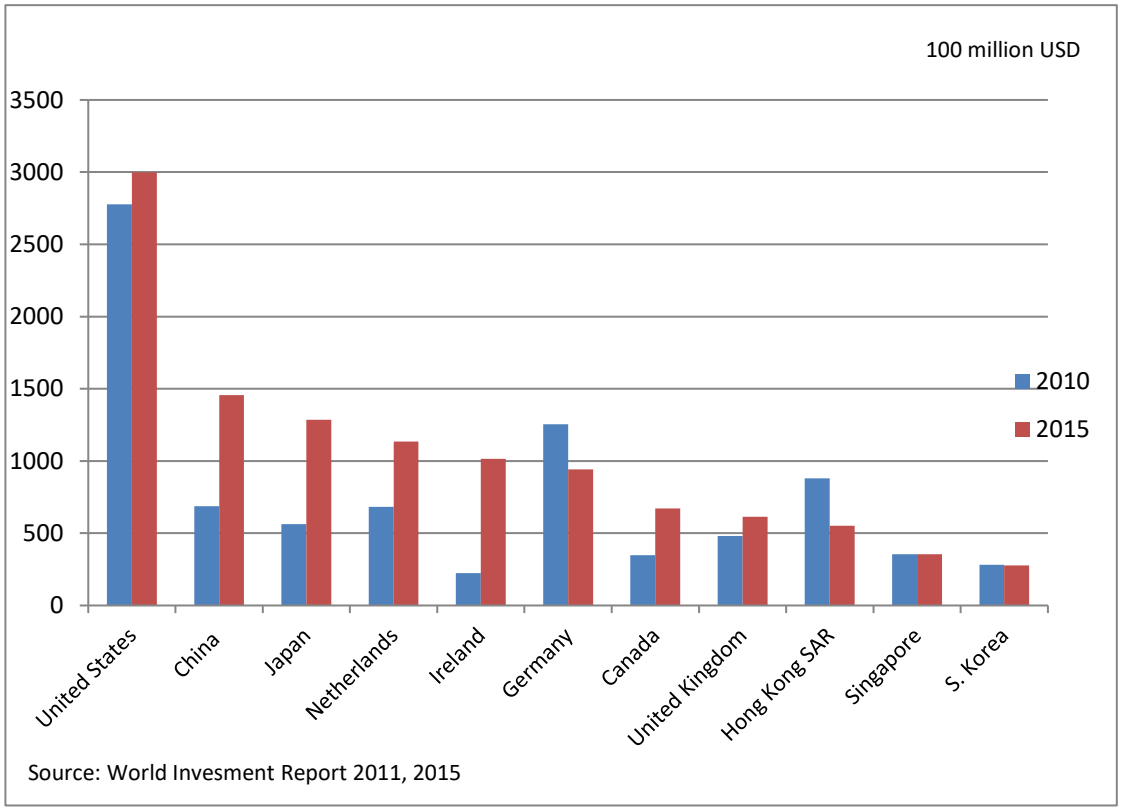
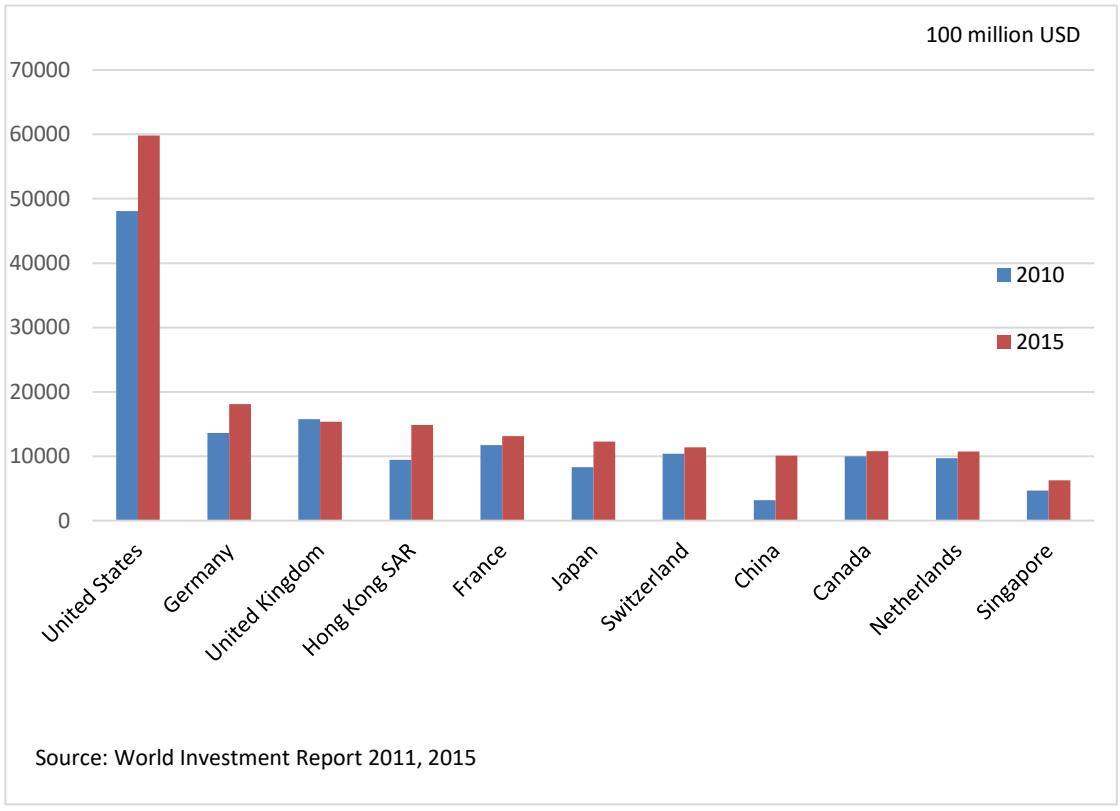


Figure 2.2: OFDI stocks of major countries in 2010 and 2015



2.3 Motivation for FDI

Researchers have attempted to identify reasons for firms undertaking FDI in a systematic way, and they eventually distinguished four main types of FDI investors: market seeking, resource seeking, efficiency seeking, and strategic asset-seeking (Behrman, 1972).

Firstly, the undertaking of market seeking FDI aims to sustain, or protect existing markets or extend new markets for future growth (Dunning, 1992, Dunning and Lundan, 2008b). The three rationales for conducting market seeking investment are 1) following either suppliers or customers, 2) obtaining market information, and 3) reducing transaction cost.

Secondly, the intention of efficiency seeking MNEs is to take advantages of factor endowments, cultures, institutional arrangements, demand patterns, economic policies, and market structures in different locations. MNEs concentrate production in a limited number of locations and supply multiple markets with the lowest transaction cost. The gains obtained from efficiency seeking investment include economies of scale and scope, as well as risk diversification.

Thirdly, resource seeking is a major motive for emerging countries when they start investing abroad. FDI not only provides access to natural resources, but also other resources like labour and technology. An abundant supply of cheap labour in the manufacturing sector is one important resource from an investor's point of view when they face high labour costs in developed countries. In contrast, investors from emerging countries look for technological capability and know-how.

Finally, strategic asset seeking MNEs conduct FDI to acquire assets of foreign corporations that sustain and advance their global competitiveness (Wesson, 1999). Most strategic asset investments are completed by experienced MNEs with familiarity to exploit capabilities of acquired firms. Of the four motivations, the strategic asset seeking motivation is the most important for generating long-term profitability (Dunning, 1992, Dunning, 1998, Dunning and Lundan, 2008a).

Even though the characteristics of each motivation are clearly defined, FDI by MNEs does not easily fit into specific categories. Dunning (2002), Dunning and Lundan (2008b) mention that efficiency seeking motivation and strategic asset seeking motivation are not easily identified from statistics. Also large and experienced MNEs, undertake foreign investment to pursue several motives at the same time (Narula and Wakelin, 1997). With knowledge of the four key motivations, the authors observe that

firms may change motivations in different time periods, and some may maintain several motivations at the same time. The authors conclude that the motivations for investing in different countries are unique, even though investments come from the same origin and at the same period of time.

2.4 Investment Development Path

Researchers have developed frameworks such as the investment development path (IDP) to explain the development stages of the foreign operations of MNEs. In the following, four main areas of IDP and FDI are explained. The first part describes the concept of IDP, and the second part explains the FDI approach of emerging countries. The third and fourth parts illustrate the elements of technology and government which closely influence the future development of FDI along IDP.

Concept of investment development path

The investment development path (IDP), formerly named the investment development cycle, is a framework explaining the interrelationship among IFDI, OFDI and the economic growth of a country. The path is identified based on Dunning's empirical work, which studies economic development in 67 countries (Dunning, 1981). Based on the IDP, each country goes through five stages of development and each stage is determined by net outward investment (NOI) and GDP per capita. Moreover, the characteristics,

roles and motivations of FDI in each stage are closely related to the competitiveness of internal OLI advantages under the OLI paradigm and external factors like competitors and the government (Dunning, 1981, Dunning and Narula, 1996, Dunning, 2003).

In the OLI paradigm, ownership advantages (O) of a firm cover property rights and intangible asset advantages, advantages of common governance, and institutional assets. Meanwhile, internalisation advantages (I) generally explain the capability of a single firm coordinating different internal functions to replace the market mechanism. The location-specific factors (L) indicate the advantages of factor endowment in a host country, which enhance the capabilities of the firms. Each advantage is equally important and supportive of others to determine MNEs objectives and FDI activities according to the paradigm (Dunning, 1998). In each stage of IDP, the FDI activities have different motivations because of the various advantages of OLI.

Countries in stage 1 have less than USD 400 GNP per capita (Dunning, 1981). In this stage, emerging countries lack location advantages and firms do not possess ownership advantages, which make most OFDI motivations implausible, except for the resource seeking motive. Thus, the less competitive pressure from local firms and imperfect market structures in emerging countries may attract resource seeking investments in labour intensive manufacturing and primary sectors (Dunning, 1992). Governments at

this stage should aim to build up legal and commercial infrastructure and train human capital for future growth (Dunning, 2003).

In stage 2, countries have a GNP per capita between USD 400 and USD 1,500. Infrastructure and skilled labour built up in stage 1 stimulate a higher level of IFDI with higher capital intensity. On the other hand, experience in stage 1 facilitates local firms in gaining a certain level of ownership advantages to produce low-value and labour intensive products. Market seeking and strategic asset seeking OFDI starts to emerge aided by the encouragement of local governments through export subsidies, technology development support and so on. Government policy should normally concentrate on upgrading the quality of human capital and managerial capability, establishing efficient capital markets and the banking system (Dunning et al., 1996). However, the growth rate of OFDI is far behind the rate of IFDI, thus NOI in stage 2 is the lowest across all stages (Dunning, 1981, Dunning, 1992, Dunning and Narula, 1996, Dunning, 2003).

In stage 3, GNP per capita of the countries rises to USD 4,000, and OFDI increases much faster than IFDI, which renders NOI positive. The rising incomes and labour cost weaken location advantages, so potential efficiency seeking investors turn down investment plans. Furthermore, foreign MNEs slow down their investments when they realise that local competitors are learning from them.

On the other hand, local firms start market seeking OFDI when they obtain higher levels of ownership (O) and internationalisation (I) advantages in the OLI Eclectic Paradigm by having a better ability to manage and coordinate international assets. Also, domestic firms look for further growth by strengthening their equity ownership such as intellectual property, and start strategic asset investments to gain technology and well-known brands.

The role of government in stage 3 is to attract more IFDI into high-tech sectors to enhance productivity. Meanwhile, governments encourage local firms to invest abroad, particularly in the sectors that have higher ownership advantages with the comparative location specific (L) advantages as the weakest at home. The encouragement from governments varies in form, most developed countries offer basic market information or consultancy services. On the other hand, emerging countries often offer subsidies or tax incentives to motivate OFDI activities.

In stage 4, OFDI outperforms IFDI, which generates positive NOI, and the growth of OFDI is higher than IFDI. Competition in the local market is keen, as neither local firms nor foreign firms have distinct and sustainable comparative advantages. Labour costs in stage 4 are high and manufacturers require extensive capital for higher valued activities. In this stage, both IFDI and OFDI acquire foreign technologies via M&As

and by forming joint-ventures to seek strategic assets. Governments during this stage do not take an active role to influence IFDI and OFDI, their role changes to maintain supervisory and regulatory functions to ensure a fair and transparent market mechanism.

Countries at stage 5 obtain advance technologies and are well developed with the highest endowment of knowledge-intensive assets. Firms also have higher capabilities to invest abroad as compared to stage 4 (Durán and Ubeda, 2005). Both OFDI and IFDI increase steadily but NOI falls to zero. Competition between local firms and MNEs is keen as both run their businesses globally, and each side continues to acquire strategic assets to maintain comparative advantages. Furthermore, the role of government is to support the upgrading of technological and human capabilities so as to strengthen L advantages in the long run.

From the IDP and the interrelationship with NOI, the economic growth and the motivation of OFDI are established, which explains the phenomena of OFDI activities. As the international business environment is so dynamic, Durán and Ubeda (2001) modified the IDP and they aimed to strengthen the model's explanatory power. In their new approach, inward and outward stocks replace NOI because IFDI and OFDI are different in nature. Another modification relates to the indicator of economic development. In particular, GDP per capita is replaced by a proxy which includes the

degree of economic development, the nature of international trade and the peculiarities of the countries, such as their technological capability, these variables are adapted in the models for the three empirical studies.

No matter which version of IDP is adopted to explain FDI development, the significant determinants of economic growth and FDI in each stage are indigenous assets. Therefore, firms and governments at each stage should pursue different strategies to ensure enough indigenous assets are available for future economic growth (Dunning, 1981, Ozawa, 1992, Porter, 1990, Durán and Ubeda, 2001).

FDI approach of emerging countries

Developed and emerging countries have different stages of IDP. These differences identified by Buckley et al. (2008) and Dunning et al. (2008) are 1) though firms in emerging countries have ownership advantages, they are in a different form compared to firms of developed countries, and most of their advantages are derived from home country-embeddedness such as knowledge of local markets and knowledge of how to handle institutions in emerging countries which determine the scope and pattern of the OFDI; 2) the majority of emerging countries FDIs are invested in other emerging countries; 3) relational assets are the main information source and important advantage for emerging countries investing abroad; 4) firms from emerging countries increasingly

target investment opportunities in developed countries; 5) firms from emerging countries prefer joint-ventures as the entry mode for OFDI; 6) home country governments from emerging countries exert a strong influence on the level and direction of OFDI; and 7) firms from emerging countries venture abroad at a much earlier stage of IDP before they are well established in their industry.

Because of the uniqueness of OFDI in emerging countries, the explanatory power of conventional theories of FDI has been doubted and researchers have argued that an alternative framework is needed (Child and Rodrigues, 2005, Luo and Tung, 2007, Yaprak and Karademir, 2010). Meanwhile, Buckley et al. (2008) concluded that mainstream theories still work in emerging countries, but that additional theory, nested within the general model, is also needed. Different theoretical frameworks were developed and extended the explanatory power of conventional FDI theories to explain the unique features of OFDI in emerging markets. The frameworks which influence this study most is the springboard approach proposed by Luo and Tung (2007) and catch up approach by Mathews (2006a).

Luo and Tung (2007) observe that a high percentage of OFDI from emerging countries comes from state-owned firms, and they recognize that MNEs from emerging countries have several common objectives. Their internationalisation is a springboard

1) to compensate for their competitive disadvantages.

2) to overcome their latecomer disadvantage.

3) to counter-attack global rivals' major footholds in their home country markets.

4) to bypass stringent trade barriers.

5) to alleviate domestic institutional constraints; and

6) to secure preferential treatment offered by emerging market governments.

They conclude that the majority of investments from Asian countries are strategic asset and opportunity seeking[4]; MNEs from emerging countries adopt an aggressive and risk-taking approach to acquire assets in developed countries, and aim to overcome their latecomer disadvantages.

Moreover, the authors narrowed down the definition of strategic assets for MNEs in emerging countries and they classified them into three types. The first relates to technology capability including technology, know-how, R&D facilities and human

[4] Opportunity seeking is the investment to take advantage of institution difference like financing and reverse investments back to home country (Luo and Tung, 2007).

capital, the second is marketing knowledge like brand and consumer base, and the final type is natural resources.

The importance of governments in OFDI from emerging countries is mentioned specifically by Luo and Tung (2007) in that governments have a strong influence on all kinds of OFDI decisions. The authors develop a proposition related to the interaction between institutional forces and MNEs' strategies in emerging markets. They propose that MNEs pursue international expansion aimed at securing preferential treatment offered by emerging market governments, thereby alleviating domestic institutional constraints. However, researchers in emerging markets are much more positive, examples of complementarities between government and OFDI in emerging countries are prevalent.

Mathews (2006a) proposed the catch up approach and he asserted that latecomers from emerging countries have three characteristics. Firstly, they internationalise very rapidly; secondly, they achieve internationalisation not through technological innovation, which is their weakness, but through organisational innovation; finally, they implement internationalisation through strategic innovations that enable them to exploit their latecomer and peripheral status to their advantage.

According to Mathews (2006a), the international expansion of MNEs from emerging countries is driven by resource linkage, leverage, and learning. Linkage facilitates latecomers to acquire resources externally, which can be accessed outside of the MNE. Thus, linkage and leverage are notions that directly contrast with a view that MNEs derive advantages from ownership of superior resources and from the internalisation of operations across national borders. Finally, repeated application of linkage and leverage processes may result in the firm learning to perform such operations more effectively.

Along the investment development path, there are two major elements which are reshaping the development cycle of FDI. The first element is technology which is explained by the strategic asset seeking motivation under the springboard approach (Luo and Tung, 2007) and the catching up strategy (Mathews, 2006b). The second element is government, and the influence of government has become stronger in both IFDI and OFDI, which also affects the motivation of FDI.

Technology development

The IDP and new theories in emerging countries indicated that technology is critical to facilitate economic development in the long run. In order to compare the technological level of different nations, UNCTAD devised the Innovation Capability Index to measure technology capacity and technology producing assets in a nation. The level of national

technological capability is measured by input and output. For example, the R&D expenditures and the training of scientists and engineers are two input measurements, and the two output measures are the patterns of patenting and the receipt of royalties and license fees. All of these variables are new contributors to determine OFDI in the revised IDP framework (Durán and Ubeda, 2001), and the Innovation Capability Index is highly correlated with GDP per capita according to the World Investment Report 2005.

Several previous studies on the technology strategy of MNEs have identified the relationship between R&D activities of MNEs and home country advantage. Bas and Sierra (2002) defined four types of strategy for MNEs to seek technological advantages: 1) MNEs adopt a technology-seeking FDI strategy by sourcing technological advantages in the host country, which aims to compensate for technological weakness at home; 2) MNEs select a home-base exploiting FDI strategy to exploit the existing firm-specific capabilities in host countries, which is the exact opposite of the first strategy; 3) Firms are market-seeking when a firm invests in technological activities in which it is relatively weak at in its home country as well as the host countries, and the motivation of this type of strategy is not technology-oriented; and 4) MNEs adopt home-base-augmenting FDI through having very strong technological advantage at home and host countries, which aims to augment a firm's existing stock of knowledge in host

countries. According to Bas and Sierra (2002), this kind of investment is also labelled as strategic asset-seeking R&D.

Amit and Schoemaker (1993) gave a broad definition of strategic assets as sets of firm specific resources and capabilities, developed by management, as the basis for creating and protecting the firm's competitive advantages. The authors list examples of possible strategic assets which include technological capability, a fast product development cycle, brand management, control of or superior access to distribution channels, a favourable cost structure, close buyer-seller relationships, firms' customer bases, firms' R&D capability, firms' service organization and firms' reputation.

However, not all resources in a firm are classified as strategic assets. Only the resources that are valuable, rare, imperfectly imitable and enable firms to conceive corporate strategies and generate economic rent or organisational rent in an imperfect market in the long run are considered strategic assets (Barney, 1991, Amit and Schoemaker, 1993). Therefore, firms have different definitions of strategic assets and various priorities of capturing assets, depending on corporate strategies as well as the opportunities and threats in the business environment (Wesson, 1999).

Luo and Tung (2007) narrowed down the definition of strategic assets for MNEs in emerging countries and classified them into three types. The first type relates to technology capability including technology, know-how, R&D facilities and human capital. The second type is marketing knowledge like brand and consumer base. The final type is natural resources. However, from emerging countries' governments perspectives, foreign knowledge of technology and know-how are often their major targets (Buckley et al., 2008, Morck et al., 2008, Kumar, 1998a, Kim and Kee, 2009).

Strategic asset seeking FDI is identified as the most significant motivation in emerging countries according to Dunning (1998). He points out that the number of mergers and acquisitions is the best indicator of the growth of strategic asset seeking FDI. Unlike asset exploitation, which attempts to transfer and exploit resources within a firm, asset seekers learn and gain from the host country, but both of them are complementary to facilitate the growth of firms (Wesson, 1999, Makino et al., 2002). Wesson (1999) identified the differences between them by their function and he identified firms undertaking strategic asset seeking investment to acquire technology that do not just exploit resources but also enhance the ability to create competitive advantage like technology generation. Certainly, with the acquired affiliates in the host country, MNEs also have better flexibility to transfer knowledge and information among different firms within the same organization. The argument of Ivarsson and Jonsson (2003) confirms

this, and they point out that MNEs engage in R&D in a host country to tap into foreign sources of localised technological capabilities in which to assimilate and transfer the technological capability to other parts of the parent corporation outside of the host country. Indeed, both asset exploitation and asset seeking interact with each other to strengthen a firms' competitiveness.

The role of government in OFDI

According to the IDP, the role of government in stages 2 and 3 is to attract more IFDI into high-tech sectors to enhance productivity. Also, governments encourage local firms to invest abroad to enrich resources and for opportunities in the overseas markets. Learning from experiences in both developed and emerging countries, OFDI's development and pattern are not only related to the comparative advantages and disadvantages of home countries, but are also influenced significantly by the impact of government policies (Nachum et al., 2000). In emerging countries, institutions have a strong influence on FDI motivations based on the previous experience, and institutions are an additional element to influence firms' internationalisation (Buckley et al., 2008, Luo and Tung, 2007, Yaprak and Karademir, 2010). According to Dunning et al. (1996), the OFDI in emerging countries is the result of government-assisted upgrading of location advantages in the home country which in turn facilitates the development of O advantages of domestic firms. While initially these O advantages were primarily

country-of-origin specific, the home country governments need to support the domestic firms in order to invest overseas and obtain strategic assets to supplement their development.

Brewer (1993) has identified the effects of home and host government policies on FDIs and market imperfections. He summarises the policies in both home and host countries that stimulate the development of OFDI. Additionally, Boddewyn and Brewer (1994) built a business and political behaviour model to explain how governments influence business decisions. They observed that strong government influence can override the market mechanism by following four aspects: 1) Acts of government have a strong impact on creating winners and losers in the market (Leone, 1986); 2) political behaviour is not determined by wealth-maximization, it can result from other resources such as organising ability, legitimacy, privileged information and relational assets; 3) collusion which is not allowed in the market, is acceptable political behaviour; and 4) political power can be retained longer than economic power and provides more sustainable competitive advantage (Hayes, 1984). By identifying the influences of government, this model then elaborates on how private firms take different political decisions in order to gain political externalities in terms of efficiency, market power and legitimacy.

Two forms of FDI result from different goals among the different stakeholders. The first form is caused by goal complementarities which is ideal and means that the purpose of OFDI at the firm and government levels match each other, and the firms are satisfied with, and agree to take, incentives offered by governments. Certainly, bargaining is common in some circumstances when firms take a partnership approach and aim to secure more competitive advantages in markets (Boddewyn and Brewer, 1994). However, another form of investment is caused by goal conflict, and this investment is classified as an escape force or conflict avoidance according to Boddewyn and Brewer (1994). This is a response caused by the misalignment between the firms' needs and the institutional environment. Based on a study in developed countries, higher levels of societal coordination tend to exhibit relatively slower rates of institutional change. In times of rapid changes in the extra-institutional environment, the slower rate of adjustment increases the probability of misalignments between the needs of firms and the national institutional environment. Under this environment, the propensity of firms to draw on OFDI as a means of escape to other national institutional contexts that are perceived to be in closer alignment with firms' needs is likely to increase (Witt and Lewin, 2007).

From the springboard perspective, Luo and Tung (2007) propose two propositions related to the interaction between institutional forces and MNEs' strategies in emerging

markets mentioned in Chapter 1. However, research in emerging markets is much more infused with the first proposition, which indicates MNEs pursue international expansion aiming at securing preferential treatment offered by governments, and examples of complementarities between government and OFDI in emerging countries are prevalent.

The characteristics and motivations of FDI in each stage of each country are closely related to the competitiveness of internal OLI advantages and external factors like competitors and government. Dunning (1981) emphasises that government should take a different role in each stage of IDP. In the early stage, the major task of government is to provide infrastructure and improve human capital. FDI generates positive development impacts on IDP if adequate infrastructure is available. However, in reality, FDI causes a negative impact on development, as competition among potential host countries exists. Yamin and Sinkovics (2009), therefore, propose that countries in the early stage of development should focus on basic infrastructure development instead of attracting FDI.

In the later stage, the role of government is to maintain innovation competence and encourage technology development; the goal is to speed up technology transfer to the home country. Kumar (1998b) identifies the limitation of technology transfer by IFDI, as inter-country technological transfer is highly concentrated in the developed countries

while the transfer in emerging countries is limited; emerging countries with high technology transfer rates have strong government intervention, such as South Korea and Taiwan. The progress of technological transfer was significant and the technological upgrade via OFDI was well recognized in these cases, which stimulated the establishment of "Go Global" policy of the China government.

2.5 FDI and Economic Growth

In economic growth theory, the main divisions are exogenous and endogenous growth models. Chirwa and Odhiambo (2018) in their economic growth theory review mentioned the exogenous growth models largely pioneered by Solow (1956) postulate that productivity growth can only be explained through direct investment, population growth and technological progress. In Solow's argument, technological progress is the only factor that affects the long-run growth rate of any economy, and thus accounts for productivity differences between nations in the world. Solow argues that shifts in the production function caused by increases (or decreases) in the rates of savings, population growth and technological progress have temporal level effects. Once the shifts to the balanced growth path are made, the economy returns to its steady state growth path. However, many economists have asserted that the Solow model suffered from omitted variable bias and cannot account for the international differences in

income, and this alleged failure of the Solow model has stimulated work on endogenous-growth theory (Mankiw et al., 1992, Chirwa and Odhiambo, 2018).

Endogenous growth theorists extend this thought by arguing that capital investment, if modelled correctly, can also exhibit increasing returns to scale if capital is used for innovative purposes, such as investment in innovative and intellectual capital. One of the endogenous growth theories related to knowledge is highly related to this thesis. Romer (1986) believed while exogenous technological change could be ruled out, the growth model is an equilibrium model of endogenous technological change in which long-run growth is driven primarily by the accumulation of knowledge by forward-looking, profit-maximizing agents. This focus on knowledge as the basic form of capital suggests natural changes in the formulation of the standard aggregate growth model. Romer (1990) further explains the role of technological change as the incentive for continued capital accumulation, and together, capital accumulation and technological change account for much of the increase in output per hour worked. He believed the growth model is one of endogenous rather than exogenous technological change because not everyone who contributes to technological change is motivated by market incentives. There are different endogenous theories besides Romer, and Hall and Jones (1999) believed a country's long-run economic performance is determined primarily by the institutions and government policies which are classified as social infrastructure,

that make up the economic environment within which individuals and firms make investments, create and transfer ideas, and produce goods and services.

Based on the literature, the theoretical growth debate on factors accounting for international productivity differences is far from over. However, technological changes (Solow, 1956), intellectual capital (Romer, 1986) and social infrastructure (Hall and Jones, 1999) are highly related to FDI. Bboth technology development and the role of government are two major elements which are reshaping the development cycle of FDI mentioned in section 2.4.

In globalisation, international business activity is an important element for economic growth. For instance, trade is one of the main research focuses in the field, and a large amount of empirical studies identify the positive impact of trade on economic growth. Based on experience in China, it has been shown that the export trade facilitates the economic growth by enhancing productivity, and it facilitates China to develop a unique industry structure and industrial policy system, which become competitive advantages (Chuang and Hsu, 2004, Rodrik, 2006). Other than trade, FDI is another channel for international business stimulating economic growth. Incoming capital injection and increasing corporate income tax are direct and tangible gains of IFDI, which explains the phenomena of why governments encourage IFDI. In the economic growth literature,

it is found that FDI plays an important role in contributing to economic development in a host country via three channels: 1) the increase of various production factors, especially capital; 2) the upgrading of various industrial structures from low-value-added industry to high-value-added industry; and 3) the technological innovation (Lin, Cai and Li, 2003), which are exogeneous growth elements. Furthermore, allocative efficiency, technical efficiency and technology transfer are three potential gains of FDI to a local economy categorised by Caves (1974, p.176). These potential gains that explain the spillovers in both home and host countries also might explain the motivation of encouraging OFDI (Blomström and Kokko, 1998). In the following part, further investigation on the impact of IFDI on host countries is made. Firstly, the description of the theory of impact of FDI on host country is elaborated, and secondly, the empirical findings on the impact of FDI on host country and determinant of spillovers are explained.

Theory regarding the impact of FDI on host country

Regarding the IFDI impact on the host country, Blomström and Kokko (1998) contend that there is no comprehensive evidence on the exact nature or magnitude of each effect, although it is suggested that the effect in a host country varies systematically between countries and industries. They also mention that the positive effects of IFDI are likely to increase with the level of local capability and competition.

Furthermore, there are theories explaining the effect of FDI by channel of knowledge transfer. Traditionally, it is believed that knowledge transfer normally takes place in two forms. The first form is the most common when FDI from developed home countries invests in host countries, which is known as host country impact. The second form normally exists with emerging countries' reverse transfer, which means the technology is innovated in host countries and transferred back to home countries (Buckley et al., 2003, Criscuolo, 2009), also known as the home country impact in this study.

Previous studies on the impact of FDI have mainly focused on macroeconomics, in particular the productivity growth, which identifies any knowledge transfer between host and home countries. In addition, other indicators in macroeconomics such as export and employment are also influenced by FDI according to previous research. Export is the measurement used to evaluate the transformation of economic structure, and employment is the facilitator to examine the effect on the labour market. Any findings of spillovers in these aspects are important for evaluating any structural change in both host and home countries. All these findings have strong implications for governments evaluating the effectiveness of OFDI and IFDI policies. However, due to the main topic of this study, the impact on productivity is emphasised and discussed in the following.

Productivity is the key concern of FDI spillovers studied in the literature, because FDI motivations aim to enrich either the input or output of production function so as to enhance efficiency. Caves (1974) conducted the first empirical study to find evidence supporting the productivity spillovers in host countries. According to Caves (1974), potential benefits obtained by domestic firms from FDI are allocative efficiency, technical efficiency and technology transfer. Allocative efficiency exists when the MNEs provide a significant increase in competition in the host-country market. The MNEs can reduce monopolistic distortions and enhance the productivity of the host country's resources by improving the allocation. Technical efficiency means the subsidiary induces a higher level of technical or X-efficiency in home-owned firms that compete with it, supply it and purchase from it. Finally, technology transfer refers to the subsidiary accelerating the transfer of technology and innovation, causing them to disseminate faster than otherwise among domestic firms that compete with it, supply it or otherwise enjoy some point of economic contact. It is believed that the transfer must occur more swiftly through the MNE than through other competing channels. Besides, Görg and Strobl (2001) also summarize three ways which FDI may stimulate the productivity of domestic firms, which are competition effect, linkage effect and employment effect.

According to Blomstrom and Kokko (1998), such effects occur through four channels, which are the linkage between MNEs and domestic firms, the training of local employees in MNEs, the demonstration effect, and competition from MNEs. All four channels facilitate knowledge transfer as well as productivity spillovers. In the first channel, spillovers occur through vertical linkages between foreign firms and domestic firms, the linkage can be divided into backward linkage and forward linkage. Backward linkage refers to the connection between MNEs and domestic suppliers; domestic firms are aware of the new technology, new product and management skills, and they can apply the knowledge obtained from MNEs to their daily operation, which enhances the productivity of domestic firms. Moreover, spillovers exist as suppliers are forced to meet high quality, safety and reliability standards of MNEs. Meanwhile, forward linkage is formed when MNEs develop their distribution networks with local distributors and end users. MNEs can afford to provide new technology and new product training to local distributors, and such training is a prerequisite to ensure local distributors have capability to use the technology and promotes advanced technologies in a new local market (Blomström, 1992).

The second channel is the training of local employees in MNEs. The local employees who work in MNEs receive different kinds of training, from on-the-job training to seminars and more formal schooling to overseas education (Blomström and Kokko,

1998). These employees may find advantages when they move to domestic firms or set up their own companies, eventually they apply their knowledge and know-how that they obtained in MNEs to the new working environment.

The third channel is the demonstration effect, which mostly exists at the same horizontal level between MNEs and domestic firms. If an arm's length relation exists between MNEs and domestic firms and the latter learn superior production technologies from MNEs, a demonstration effect occurs. However, imitation of imported technology of MNEs by a local competitor is another type of demonstration effect which often exists when market competition is keen.

Lastly, competition from MNEs may force domestic rivals to improve production technologies and techniques in order to enhance productivity which is known as the competition effect. Blomström (1992) noted that competition from MNEs facilitates the productivity enhancement in two different ways. Firstly, domestic firms, which are less efficient, invest more in physical or human capital. Secondly, some domestic firms close down an operation, so invaluable resources can be reallocated to more productive companies.

However, Aitken and Harrison (1999), Görg and Strobl (2003), Yang et al. (2009) argue that additional competition from FDI forces domestic firms to reduce output, and eventually overall revenues of domestic firms fall. Likewise, the domestic labour market crowding out effect on the productivity of domestic firms exists when foreign investors employ high skilled local workers from domestic competitors. All of these negative impacts might overwhelm the positive FDI spillovers that reduce average cost and thus, may cause negative productivity spillovers.

Empirical studies on spillovers in a host country by IFDI

As previously stated, a general perception indicates host countries take advantage when a home country moves jobs and technology to host countries. In general, three potential gains in a host country can be captured from FDI according to Caves (1974). He showed that higher foreign invested subsidiary shares apparently coincide with higher productivity levels in competing domestic firms in an Australian study which was the first empirical study to examine the impact of FDI on productivity.

However, cases of negative impact on domestic firms caused by competition effect and domestic labour market crowding out effect have been found (Aitken and Harrison, 1999, Görg and Strobl, 2003, Yang et al., 2009).

Table 2.1 summarises the empirical impacts on productivity in host countries from both aggregate, industry and firm-level perspectives. Mixed results are found and the result of productivity spillovers are caused by different magnitudes of positive knowledge and negative competition as well as domestic labour market crowding out effects. Indeed, Lipsey and Sjöholm (2005) comment that it is difficult to understand the variety of results since data sources, capital and output measures are inconsistent across all studies. They suggest applying the same techniques to identical types of data in different countries, or to test alternative methods on the same country's data. They, therefore conducted several studies by adopting Indonesia plant-level data for the manufacturing industry.

Table 2.1: Impacts on productivity in the host countries

Author(s)	Host Country	Study Focus	Findings
Chuang and Lin (1999)	Taiwan	Industry	1 percent increase in IFDI generates 1.4 percent productivity growth in the same sector.
Aitken and Harrison, (1999)	Venezuela	Firm	1 percent increase of IFDI causes a 0.27 percent loss in domestic productivity, and the impacts are more serious for small plants.
Liu et al. (2000)	U.K.	Industry	10 percent increase in IFDI can generate 1 percent productivity growth and more significant when the technology gap between local firm and foreign firm is low, but in those industries where local firms have low technological capabilities compared to foreign competitors, FDI has no significant impact on changes in labour productivity
Driffield (2001)	U.K.	Country	15 percent productivity growth generated by the foreign sector
Driffield and Girma (2002)	U.K.	Firm	10 percent increase in FDI in the region (at the two-digit level) generates a 2.3–5.6 percent improvement in the productivity of the average UK-owned plant.
Görg and Strobl (2003)	Ireland	Firm	FDI was found to reduce the average cost of domestic firms in high-tech sectors, but the presence of MNEs reduces the number of plants in low-tech sectors
Chuang and Hsu (2004)	Taiwan	Country	1 percent FDI contribute 1.4 percent productivity improvement and local 1 percent R&D stimulate 1.88 percent of productivity spillovers
Javorcik and Spatareanu (2008)	Romania	Firm	Higher vertical productivity spillovers to local supplier, compared with the horizontal one
Bitzer and Görg (2009)	E.U.	Country	1 percent increase in IFDI is associated with 0.013 percent productivity growth
Driffield et al. (2009)	U.K.	Country	Significant and positive coefficients, between IFDI and domestic productivity, a one percent increase of IFDI generates a 0.0134 percent productivity growth.

Another reason to adopt this data set is that six out of seven studies at both cross-section and panel levels found statistically significant results of spillovers in vertical linkages. In this study, they found identical positive results in two-digit, three-digit and five-digit ISIC (International Standard Industry Classification) industries as well as at the sectoral level and province level, although in the case of the latter the influences were minor. The coefficients are the highest at the all-sector level and the coefficient is higher at the three-digit level than at the two-digit level, but the effect is the smallest at the five-digit level when the industry definition is too specific.

Determinants of spillovers

The knowledge and technology transfer mechanism is complex and involves different parties. The willingness and capability of investors, the willingness and capability of domestic firms, and the incentives and the restrictions of both the government in the host and home countries influence the effectiveness of technology transfer (Young and Lan, 1997). The determinants which affect spillovers have been evaluated in past studies, and both the features of investors and receivers have strong impacts on the magnitude of spillovers.

The first determinant is origin of FDI and entry strategies, the debate about applying conventional international business theory in emerging countries indicates the

differences between OFDI from emerging countries and developed countries. Based on one Chinese study, conducted by Buckley and Meng (2005), overseas Chinese investors[5] mostly invested in labour intensive, low technology and export-orientated sectors in China. Also, western firms are more domestic market-driven and look for long term profit. They found western IFDI generates a higher magnitude of spillovers on the Chinese manufacturing sector than overseas Chinese investors. In another study conducted by Buckley et al. (2002), western investors exerted higher positive effects on new product development in local firms than overseas Chinese investors do. Also, various orientations have impacts on spillovers. Market oriented investors are looking for long term profits, and they are more willing to move into advanced technology than export oriented investors (Blomström et al., 2000).

The second determinant is the nature of the integration of domestic firms. Yang et al. (2009), Smarzynska (2002) and Javorcik and Spatareanu (2008) identified that productivity spillovers only exist in backward linkages, and the impact of horizontal linkages are insignificant, which means that FDI generates externalities in inter-industry firms instead of intra-industry firms. Moreover, Smarzynska (2002) found that negative competition effects offset positive effects in the same sector. However, the

[5] Overseas Chinese investors refer to the investors from Hong Kong, China; Taiwan; Macau, China and Singapore.

demonstration effect played an important role in technology transfer between inter-sectors.

The third determinant is the share of export business. Exports are another way to acquire technology, and Perkins (1997) found that export oriented domestic firms recruited higher quality labour and possessed better technology from their outsourcing customers and have higher productivity than other local firms.

The fourth determinant is the scale of firms and production. Chuang and Lin (1999) found that FDI generated higher positive spillovers for larger scale production firms. Aitken and Harrison (1999) also found negative spillovers on small scale domestic firms and they found that small size firms suffer more from the effects.

Other than these factors, Meyer and Sinani (2009) identified four determinants which influenced the behaviour of recipient firms: absorptive capability, awareness, technology gap, and motivation. The level of each of the factors in the host countries is highly related to economic development.

Firstly, absorptive capability has several definitions. The first one is a firm's ability to value, assimilate and apply new knowledge (Cohen and Levinthal, 1989). It is a set of organisational routines and processes by which firms acquire, assimilate, transform and

exploit knowledge to produce a dynamic organisational capability (Zahra and George, 2002). According to these authors, potential capacity comprises knowledge acquisition and assimilation capabilities and realizes the capacity by focusing on knowledge transformation and exploitation.

Secondly, awareness refers to the ability to recognise the potential learning gains from foreign competitors on their own business (Meyer and Sinani, 2009) which is described as potential absorptive capability by Zahra and George (2002). According to these authors, firms need capability for knowledge transfer. Firms with higher potential or awareness capability have more flexibility in reconfiguring their resources and they have effective timing capability to deploy and plan at lower cost than other competitors. Moreover, firms with awareness capability have better innovation and product development capabilities than their competitors. The capabilities of potential recipient firms are a function of human capital and their organisation structures (Meyer and Sinani, 2009).

Thirdly, the technology gap between investors and domestic firms is an important condition to determine the magnitude of spillovers (Blomström et al., 2000). This relates to productivity improvements which influence the demonstration effects (Meyer and Sinani, 2009). Smarzynska (2002) designed a model and identified the ideal level of

technology gap for technology transfer, and she suggests that domestic firms learn fast when there is a moderate technology gap between domestic firms and foreign investors. Labour quality is an element affecting absorptive capability, high quality labour encourages internal learning and has better capability of knowledge transfer, and thus raises productivity (Chuang and Lin, 1999).

Finally, IFDI intensifies competition in the market and generates a competition effect on domestic firms, and the net spillovers depend on the positive demonstration and negative competition effects. If domestic firms are highly motivated and adopt offensive strategies to counter the threat, then domestic firms benefit from the demonstration effect and raise their competitiveness.

Meyer and Sinani (2009) consider the spillovers in three groups of countries: low, medium and high-income economies. In the low-income group, local firms have low awareness, motivation and capability but they gain from demonstration effects because of the high technology gap. In medium income countries, firms have high awareness, but weak absorptive capabilities; thus, the demonstration effects on transfer knowledge are low, and market stealing effects are dominant. In high-income economies, domestic firms have high motivation and strong capabilities, in particular, and better realize capability. Therefore, they suggest FDI spillovers are curvilinear and take a U-shaped

form along the economic development path, and their proposition is supported by empirical results that indicate low-income and high-income economies benefit most from IFDI.

Lastly, the research method employed to investigate spillovers may cause bias on spillovers. Görg and Strobl (2001) confirm the effects of productivity spillovers are higher in cross-sectional studies than in panel studies and the selection of the OFDI measurement unit also influences the effect of spillovers across studies.

Moreover, the design of the regression function causes very different results in the coefficient. Sasidharan (2006) examined the spillovers of IFDI in India by two functions. Firstly, he adopted a log-linear production function and estimated the equation by using the OLS method, and the coefficient of IFDI was positive and significant. Secondly, he used a first difference model, and he found no significant findings of horizontal spillovers and insignificant negative impacts on vertical linkages.

2.6 The Impact of OFDI on Home Countries

In contrast to IFDI, studies on OFDI impact on home country are not that common, and current understanding of the OFDI impact is also limited. However, the impact of OFDI on a home country is also critical because it is the concern of all home country

governments, particularly in regard to export and employment perspectives, which affect the design of OFDI strategies. More importantly the governments may worry that OFDI is a source of economic and social insecurity caused by the substitutive effect to the local economy (Desai et al., 2005).

Theoretically, based on the experience of developed countries (Blomström and Kokko, 1998), OFDI may generate similar positive impacts on home countries. When the MNEs conduct OFDI, there should be beneficial effects created for the MNEs. Dunning (1995) emphasized OFDI is an illustration to strengthen the inter-firm linkages, in order to create or upgrade core competence of O advantages, and he classified this factor as L-pull factor. In other words, OFDI is not only pushed by the O advantages of the investors, but may also be pulled by the innovations and other factors of host countries, which is beneficial to the MNEs (Shan and Song, 1997).

One of the benefits is the knowledge captured in the host country. Buckley et al. (2003) introduced the terminology of reverse knowledge transfer when the authors identified the knowledge channels among headquarters, foreign affiliates and other affiliates in foreign markets. Reverse transfer occurs when new knowledge is returned to a parent firm and generates a positive impact on the home country. According to their findings,

the likelihood, and magnitude, of reverse transfer is highly reliant on the embeddedness of OFDI in the host country.

From the knowledge transfer perspective, a positive impact is created particularly on productivity when there is knowledge transfer between host and home countries of FDI. In the following, the first part illustrates the theory of OFDI impact on the home country, the second part explains the empirical findings on productivity enhancement of OFDI and the last part describes more details of knowledge transfer.

Theory regarding OFDI impact on home country

In theory, OFDI generates both positive and negative impacts on home countries by creating substitutive effects and complementary effects. The OFDI creates substitutive effects when the new OFDI creates negative externalities at home; meanwhile, it creates complementary effects which enhance the competitive position of the home countries and generates higher output. In previous empirical studies, the effect was defined by the regression result when researchers evaluated the impact of OFDI on export and employment in a home country. If the result shows a positive sign, the relationship is complementary; if it shows a negative sign, then the conclusion is they are substitutive. However, previous works oversimplify the phenomena, as both effects exist in each case, and the regression result depends on the magnitude of each force. In the section

below, both substitutive effect and complementary effect as well as channel of spillovers creation are further explained.

The substitutive effect of OFDI refers to the negative impact on home production by reducing domestic investment and employment after MNEs invest overseas. People consider that OFDI could be a substitute for domestic investment, because people believe the OFDI can influence the capital costs of the MNEs. The decision to undertake OFDI projects would raise the investment costs for subsequent domestic investment ventures and reduce the demand of domestic investments.

Meanwhile, OFDI moves the production from home to host countries, and market seeking OFDI replaces exports or shifts domestic production abroad (You and Solomon, 2015, Kokko, 2006). Additionally, the efficiency seeking OFDI finds a cost effective location and replaces the local production. Both types of OFDI create negative effects such as a reduction of domestic low skill labour force, the loss of business and global market share of local suppliers, the loss of opportunity to learn and grow through the relationship with a parent company, and the write-off of previous subcontracting relations which have further negative impacts on the labour market (Elia et al., 2009).

On the other hand, a counter-argument on the above effects of OFDI exists. Some believe that OFDI creates complementary effects on a home country in exports, production and technology transfer. The complementary effects are created when there is an economic structural change at a home economy. Kokko (2006) mentions that the MNEs with higher internationalization are more likely to take an international division of labour, which would be more closely linked to the comparative advantages of both home and host countries. From this point of view, the most advanced operations will be located at home only if this is consistent with the overall patterns of factor costs and other location determinants. In this international division of labour, the higher value operations would be located at home, as Kokko (2006) believes they have higher skills at the home country than in host countries, and the lower value labour intensive tasks shift to the host countries. Meanwhile, the OFDI might change the production model as the market seeking and efficiency seeking OFDI may set up production in a host country, which demands raw material and semi-finished products from the home country. In this case, the home country produces and exports the high value semi products, and the host country completes the final assembly task. Thus, the total market size is enlarged, the total market demand of final goods increases, and the export of intermediate goods is expanded.

Regarding the discussion of net effects between substitutive effects and complementary effects, there are no definite conclusions. There are two major reasons for this. Firstly, Lipsey (2002) points out that most studies of effects of OFDI on a home country have a problem with the terms substitution and complementarity not clearly being defined. Meanwhile it is rare to find a clear counterfactual case to which the existing situation is being compared. Secondly, Kokko (2006) mentions there are two complications to identify the net effect. The first one is that the net impact on the home country cannot be determined theoretically because it combines several separate effects that are sometimes in opposition. On the one hand, the substitutive effect of OFDI replaces some previous home country production and exports. On the other hand, it also tends to promote exports of intermediate goods from the parent company or various home country suppliers to the new foreign affiliates, and there is no systemic way to estimate the magnitude of each effect. The second problem is that it is hard to judge what would happen to exports, employment and investments if the MNEs had not invested abroad. Without the OFDI, MNEs might not be able to maintain their market share and that could led to weaker competitiveness. Kokko (2006) therefore suggests the net impact of OFDI is largely an empirical question.

Direct effect and spillovers

Both substitutive or complementary effects, need a channel for creation. Based on previous studies, OFDI is understood to create own-firm effects, which has a direct impact on productivity in the parent company. Vahter and Masso (2006) explain the reasons why OFDI may create a positive impact on productivity in its home country. These reasons include the following direct own firm effects within the MNEs: 1) the opening of new channels of international sourcing of technological, managerial, host country conditions/market related knowledge; 2) the exploitation of firm level scale economies; and 3) a possible change in composition of production inputs, i.e. specialization effects. Thus, with more OFDI, the firm itself has more exposure to and can equip more market knowledge and management skills in order to contribute to the firm's development in the home country.

Besides the above direct own firm effects, positive indirect effects via spillovers on the national firms in the home country are generated. In the Cobb-Douglas production function, productivity growth is estimated by the Solow residual of the productivity or total factor productivity (TFP) concepts, which were developed from Solow's growth framework (1956).

In the economic growth literature, TFP is one of the common measurements for the spillovers effect of FDI, and TFP also measures the technological change mentioned by Solow (1956). The concept of TFP includes the portion of output not explained by the amount of inputs used in production (Comin, 2006). The TFP index indicates the level of efficiency and intensity of input utilization in the production. TFP growth constitutes two components: technological progress and more efficient management practice (Wu, 2008a). According to Fu (2004), more efficient management practice or efficiency change measures the change in relative efficiency between two different periods and is normally measured annually. It reflects whether production is getting closer to or further away from the product production frontier. Another element in TFP is technological progress or technical change, which captures the change in the technology level between two periods. Hulten (2001) and Hulten and Anders (2007) define TFP as the output per unit input and includes the part resulting from R&D, learning, or pure inspiration. Besides, it includes the changes in organisational efficiency and institutional factors, such as the legal and regulatory environment, geographic location, and political stability, as well as deeper cultural attitudes that affect the work place. Furthermore, it encompasses all other factors not explicitly included in the measured input, and omitting variables like infrastructure capital, variations in the utilization of capital and labour, and measurement errors.

The existence of TFP growth seems to be a “black box” that is operated outside the realm of economic forces (IMF, 2003, Goldberg et al., 2008), and currently there is insufficient effort to investigate the elements and mechanisms in the “black box”. From previous findings, the benefits of FDI affect the efficiency change and technical change (Caves, 1974). However, these two elements are indicated as elements of TFP according to Wu (2008a). In other words, FDI will affect the TFP growth, and this TFP growth generated by FDI is classified as spillovers.

Blomström and Kokko (1998) mention that the term “spillover” has rarely been used in the home country because the impact to the MNEs themselves can hardly be characterized as a spillover effect, but the effect on its suppliers may be regarded as spillovers. They believe there are different kinds of spillovers generated in a home country when MNEs invest overseas: 1) the supplier of MNEs becomes more competitive as a result of OFDI; 2) the MNEs concentrate the research and development operations in their home country, and the international operations normally generates more research activities in the home country, which enhances these productivity spillovers; 3) the non-multinational home country firms learn from the distribution networks and the knowledge of foreign markets via MNEs which generates market access spillovers.

In the endogenous growth theory, the central notion is increasing returns associated with new knowledge and technology; the investment in human capital, innovation and knowledge are significant contributors to economic growth. The spillovers on suppliers must be transferred from MNEs via different knowledge transfer channels. Nordås et al. (2006) identified four possible ways, all endogenous variables, which OFDI can affect productivity: better resource allocation, deepening specialisation, higher return on investment in capital and R&D, and technology spillovers. Furthermore, Hsu et al. (2011) summarise the possible channels to improve home country productivity. Firstly, MNEs improve the performance at home because they explore international competition and practice (Bitzer and Görg, 2005), MNEs acquire new advance technology (Navaretti and Castellani, 2002), and the OFDI generates scale effects (Navaretti and Castellani, 2002). Secondly, the OFDI facilitates specialization and allows MNEs to have better reallocation of resources (Görg et al., 2008). Thirdly, the OFDI creates a structural effect to the home country (Kokko, 2006).

Kogut and Zander (1992) recognize that MNEs facilitate knowledge transfer among affiliates in different countries, and encouraging technology transfer is an important strategy for the growth of firms. Both internal learning and external learning, such as acquisitions or forming new joint ventures, can strengthen combinative capabilities for applying existing knowledge and generating new technology. Furthermore, the impact

of technology sourcing OFDI is strongly highlighted by Kokko (2006), as he indicates that emerging countries have high intention to conduct this kind of OFDI, additionally the emerging countries potentially have much more to gain.

Knowledge Transfer

The magnitude of the impact is not only determined by the substitution effect and complementary effect, but also the effectiveness of knowledge transfer within MNEs and from MNEs to others. Argote and Ingram (2000) define knowledge transfer as the process through which one unit is affected by the experience of another. Knowledge transfer in organisations manifests itself through changes in the knowledge or performance of the recipient units. By embedding knowledge in interactions involving people, organisations can both effect knowledge transfer internally and impede knowledge transfer externally. Thus, knowledge embedded in the interactions of people, tools, and tasks provides a basis for competitive advantage in firms. Gupta and Govindarajan (2000) also agree that the knowledge base of MNEs has perhaps the greatest ability to serve as a source of sustainable differentiation and hence competitive advantage. They said the primary reason why MNCs exist is because of their ability to transfer and exploit knowledge more effectively and efficiently in the intra-corporate context than through external market mechanisms.

Consistent with these ideas from communication theory, Gupta and Govindarajan (2000) conceptualized knowledge flows into or out of a subsidiary to be a function of the following five factors: value of the source unit's knowledge stock; motivational disposition of the source unit; existence and richness of transmission channels; motivational disposition of the target unit, and absorptive capacity of the target unit. Jasimuddin et al. (2015a) have built a model to describe how knowledge transfers within knowledge recipients and the acquisition mechanisms, and the model mentions the characteristics of a knowledge recipient and the acquisition mechanisms employed to facilitate knowledge transfer. Knowledge acquisition is the means by which potential useful information of know-how is obtained and it represents a critical first step in the organisational learning process (Danis and Shipilov, 2012). Jasimuddin et al. (2015a) suggest that the recipient's characteristics, i.e. the motivation and absorptive capacity of knowledge within the recipient, have direct effects on the selection of the knowledge acquisition mechanism. Also, their findings shed light on the employment of transfer mechanisms including formal codification, formal personalization, and non-formal mechanisms, which influence the relationship between the motivation and absorptive capacity of a knowledge recipient and knowledge acquisition.

Furthermore, the source–target characterization of knowledge transfer is critical. Mudambi (2002) classified the principal knowledge flows: flows from subsidiary to parent, flows from location to subsidiary, flows from subsidiary to location, and lastly from the parents to the subsidiaries. Knowledge flows, whether intentional or unintentional, flow through channels, and the nature of these channels affects the quality and quantity of knowledge received by the target. Besides, the magnitude of knowledge transfer is also affected by geographical distance, relational distance and cultural difference. In a study by Jasimuddin et al. (2015b) the results demonstrate that geographic distance has both a direct and indirect effect on knowledge transfer.

Through a review of the literature, there is no theoretical model that can explain the magnitude of each factor clearly, and the factors that can influence knowledge transfer are not fully identified; thus, the mechanism of knowledge transfer is another "black box", and further research efforts are necessary. Meanwhile, the effectiveness of knowledge transfer is highly related to the third empirical study, that is the predeterminants to judge the effectiveness of the catching up effect, and further discussion is made in Chapter 7.

Empirical studies on home country productivity effects of OFDI

In empirical studies of home country productivity effects of OFDI, the motivations of OFDI seriously influence the empirical results. The majority of empirical studies focus on the OFDI from developed countries invested in emerging countries and aims to look for cost effective locations for manufacturing. Thus, mixed results are found in aggregate and firm level studies.

Among the studies, the effect of OFDI on home in developed countries is mixed. The net result depends on the nature of the competitive advantage of a home country, including the business environment and economic condition (Kokko, 2006) and also the motivations and strategies of MNEs. Kokko uses the example of Sweden and indicates that government reaction and policies aiming to create a favourable business environment in the home country may be the best way to ensure that the effects of OFDI are beneficial. The findings of empirical studies in developed countries are summarised in Table 2.2.

Table 2.2: Impacts on productivity in the home countries

Author(s)	Home Country	Study Focus	Findings
Navaretti and Castellani (2002)	Italy	Firm	Output of companies with foreign operations are 5.3 and 7 percent higher than companies without foreign investments
Hijzen et al. (2006)	Japan	Firm	Positive and significant impact, but 1 percent OFDI associated with 0.02 percent productivity growth
Kimura and Kiyota (2006)	Japan	Firm	Firms engage in OFDI have 1.8 percent higher growth than firms not engaged in OFDI
(Driffield et al., 2009)	U.K.	Aggregate	No significant impact at an aggregate level Positive technology transfer is identified when OFDI enters into high R&D intensive locations
Bitzer and Görg (2009)	OECD	Aggregate	Positive spillovers in the Czech Republic, U.K., France, Sweden, U.S., Poland, Japan; Negative spillovers in Canada, Finland, Germany, Italy Denmark, Netherlands, Korea, Norway and Spain
Sunesen et al. (2010)	E.U.	Aggregate	Productivity gain from OFDI has increased the E.U. GDP by EUR 20 billion
Navaretti et al. (2010)	Italy & France	Firm	In Italy, efficiency enhancement was identified. Three years after the investment, TFP of firms with OFDI was 13.8 percent higher than firms without OFDI. In France, OFDI facilitated the growth of total output. The differences between the firms investing abroad and the ones without foreign investment was 14.7 percent in the first year of investment; the gap extended to 26.4 percent after three years.

However, the results of OFDI from developed counties to emerging countries cannot apply to emerging countries because OFDI from emerging countries has a different nature and size. Additionally, the competitive advantage and the motivation for OFDI from emerging countries are totally different.

In order to have a better understanding of OFDI from emerging countries, Kokko (2006) emphasized that MNEs from emerging countries should be separated into two types of OFDIs. The first type includes the MNEs from emerging countries that invest in other emerging countries. Kokko estimates that these activities are not likely to differ in kind from OFDI between industrial countries. The only concern is that the emerging countries investing in other countries are not very likely to have competitive assets that are made up of advanced production technologies, instead they might be good at organisational skills, marketing knowledge or other assets. Additionally, he mentions that the structural home country effects of OFDI should be smaller in size and less important.

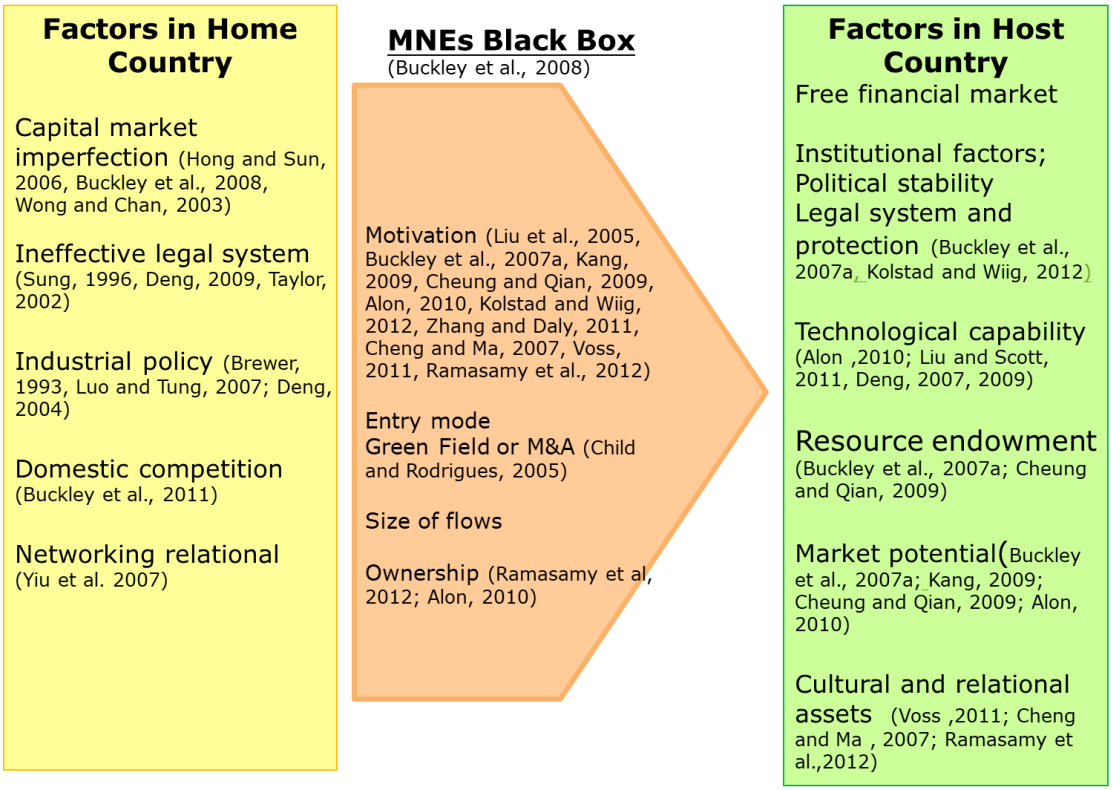
The second type includes MNEs from emerging countries with OFDI in developed countries which have a different home country effect. Because the MNEs at the home country might not be more advanced than the affiliate and the host country, the technology flows and spillovers may also take the opposite direction than the case of developed countries (Kokko, 2006). He mentions that some investments are likely to be motivated by the wish to gain access to technology and skills that are not available in the home country; thus, it is likely that the home country has much more to gain from host countries.

In Asia, there are a few studies in the literature on the OFDI impact on productivity. In Taiwan, Hsu et al. (2011) studied the impact of FDI in China and outside China on fifteen manufacturing industries between 1991 and 2007. The overall result showed no evidence that there was significant productivity enhancement at the aggregate level and a similar result was found for the OFDI in China. The final neutral effect showed that the positive effect is offset by the negative productivity effects; however, there were positive and significant effects for the OFDI outside China. This indicates that Taiwanese OFDI in other foreign countries is more technology intensive than in China. A similar study was conducted by Yang et al. (2011), that focused on technical transfer of outgoing Taiwan's manufacturers, which found that MNEs had better technical efficiencies improvement than domestic firms.

2.7 Empirical Studies of Chinese OFDI

The Chinese OFDI research area is still at an early stage, and not many studies of Chinese OFDI are available. In the current literature, most studies have identified the determinants of Chinese OFDI and explained the factors in both home countries and host countries; the literature is summarised in Figure 2.3. However, the results of empirical studies that identify and explain the determinants of Chinese OFDI do not draw consistent conclusions.

Figure 2.3: Current research on Chinese OFDI



Furthermore, very few empirical studies have been conducted to explain the impact of Chinese OFDI. This section aims to review the literatures available, and identify the current knowledge gap. Firstly, the literature on motivation of Chinese OFDI is reviewed, and the second part describes the literature on the impact of Chinese OFDI on home economy from a productivity perspective.

Motivation of Chinese OFDI

According to the IDP concept, OFDI from an emerging market normally starts from the resource seeking motivation, and this is not an exception in the case of China. Most of Chinese OFDI looks for new market opportunities and natural resources in the early stage. heoretically, based on the experience of developed countries 5) firms from

emerging countrie Recently, however, more marketing and knowledge related activities have existed which were encouraged by the government (Dunning et al., 2008). Though studies of Chinese OFDI motivation are rare compared with IFDI studies in the literature to date, there are several empirical studies evaluating the determinants of Chinese OFDI.

Several qualitative studies were conducted to evaluate the motivation of Chinese OFDI in the form of case studies, the target companies and details of the studies are summarised in Table 2.3.

Table 2.3: Qualitative studies on motivation of Chinese OFDI

Authors	**Target Companies of Case Study**	**Research Objectives**
Child and Rodrigues (2005)	Haier and Lenovo	examined patterns of and motives of internationalisation
Liu and Buck (2009)	Lenovo and BOE	identify the entry mode and motivations of Chinese firms
Deng (2007, 2009)	Haier, Huawei, Ningbo Bird Co., TCL, BOE and Lenovo	evaluated strategic asset seeking OFDI
Rui and Yip (2008)	Lenovo, Nanjing Automobile and Huawei	evaluated strategic asset seeking OFDI

In general, Chinese firms have high strategic asset seeking and market seeking motivation. All of the above cases emphasize the importance of acquiring foreign assets for catching up, and Chinese enterprises believe the combination of strategic asset acquisition via OFDI in developed countries and a cost advantage at home supported

by a huge domestic marketplace would bring significant competitive advantages to Chinese MNEs (Deng, 2007). Besides, Wu and Ding (2009), based on case studies and secondary research, concluded that the most important two strategic assets for Chinese firms were technology in upstream and branding in downstream. Chinese firms can equip these assets through technology sourcing OFDI, brand acquiring OFDI, and both technology and brand seeking OFDI.

Di Minin et al. (2012) analysed five cases of Chinese firms setting up their own R&D centres in Europe, and the common goal was to learn from their stronger counterparts in developed countries. Additionally, the authors found: 1) Chinese R&D investments in Europe were driven by technology exploration, in order to adapt technologies to local markets and gain access to foreign markets; 2) Chinese overseas R&D investments in Europe may undertake tasks of technology exploration and technology exploitation simultaneously with a dual motive driven by markets and technology; 3) Chinese firms that possess domestic competitive advantages in terms of advanced technology may also get involved in technology exploitation activities in Europe; 4) Chinese firms which are seeking and exploring technologies abroad, will transfer the information back and fuse it with local R&D activities in order to enhance their R&D capabilities, and afterwards the new capabilities and technologies are exploited in the development of products accessing overseas markets; and 5) Human resources in Europe facilitate the

Chinese firms to get external technological assistance, and support the development of high-quality Chinese human resources. The above qualitative studies show that Chinese MNEs have high intention to acquire both markets and technology in their FDI activities.

Other than qualitative studies, several empirical studies were conducted on the motivation of Chinese OFDI, and the research details and empirical findings are summarised in Table 2.4. In general, market seeking and resource seeking motivations are commonly found in the empirical studies, but mixed results are found in other motivations.

Table 2.4: Empirical studies on motivation of Chinese OFDI

	Classification	**Market Seeking**	**Efficiency Seeking**	**Strategic Asset**	**Resource Seeking**	**Impact from Govt.**	**Cultural Proximity**
Alon (2010)	State Owned	+		+	+		
	Private Owned	+			-		
Liu et al. (2005)		+					
Buckley et al. (2007)	All (1984-1991)	+					+
	All (1992-2001)				+	+	+
	OCED	+				+	+
	Non-OCED						
Kang (2009)	All	**+ and -**	+				
	HK & Macau	+					
	South East Asia	+			+		
	Japan & Korea			+			
Cheung and Qian (2009)	All	**+ and -**	-		+		
	Developing				+		
	Developed	+	+		+		
	OFDI inflow	+					+

Cheng and Ma (2007)	OFDI stocks	+ **and -**					+
	Classification	**Market Seeking**	**Efficiency Seeking**	**Strategic Asset**	**Resource Seeking**	**Impact from Govt.**	**Cultural Proximity**
Zhang and Daly (2011)	Aggregate	+				+	
	Asian countries	+					
Voss (2011)	Aggregate	+				+	+
	OECD	+				+	+
	Non-OECD						
Ramasamy et al. (2012)	State Owned				+		+
	Private Owned	+			+		
Jing-Lin and Guney (2009)	Aggregate	+					
Kolstad and Wiig (2012)	Aggregate	+					
	OECD	+					
	Non-OCED				+	+	
Amighini, Rabellotti and Sanfilippo (2011)	Aggregate	+					
	OECD	+		+			

Summarising the above findings, the motivations of market and resource seeking are unquestionable in both quantitative and qualitative research. However, the inconsistent results of strategic asset seeking investment indicate the need for further research. The mixed results may be caused by the selection of proxy variables and biased data in quantitative research, or the research method of the case study. Lipsey and Sjöholm (2005) stated that case study research does not have a delineated measurement as the real meaning of respondents are not always well defined, in particular when measuring the effects of OFDI. Therefore, they think empirical studies are more rigid in specifying

the definition of measurements and the length of time, but reliable findings depend highly on the availability and reliability of data.

Furthermore, the findings of OFDI motivations in China can be compared with other countries. Table 2.5 summarises the literature findings of OFDI motivations from several Asian countries. It shows that the MNEs in these countries have multiple motivations, and the motivations for investment in developed countries and developing countries are different.

Table 2.5 Empirical Studies: Motivation (Drake and Caves, 1992) of Outward Direct Investment from Asian Countries & the U.S.

	Destination	Market Seeking	Efficiency Seeking	Strategic Asset	Resource Seeking	Impact from Government
Japan	Developed Countries	+ Park (2003) + Drake and Caves (1992)		+ Park (2003) + & - Kogut and Chang (1991) +& - Chang (1995)	+ Park (2003)	+ Park (2003)
	Developing Countries	- Park (2003) + Fung et al. (2002), Fung et al. (2003)	- Fung et al. (2002), Fung et al. (2003)	- Park (2003) + Fung et al. (2002), Fung et al. (2003)	+ Park (2003)	- Park (2003) + Fung et al. (2002), Fung et al. (2003)
Korea	Developed Countries	+ Kim and Kee (2009)		+ Kim & Rhe (2009)		
	Developing Countries	+ Kim & Rhe (2009)	- Kim & Rge (2009)	+ Kim & Rhe (2009)		

Taiwan	Developed Countries	+ Makino et al. (2002)	+ Makino et al (2002)	
	Developing Countries	+ Fung et al. (2002)	- Fung et al. (2002)	+ Fung et al. (2002)

The impact of OFDI on the home economy

In China, productivity enhancement of Chinese FDI is strategically important for Chinese economic development in the long run. As a result it is a relevant reference to show the success of the "Go Global" policy promulgated by the Chinese government which aims to strengthen the comparative advantage of China. Wu and Chen (2001) listed the potential benefits stemming from Chinese OFDI as: 1) using foreign resources to compensate for the shortage of domestic resources; 2) accessing advanced foreign technology and management experience; 3) making increased use of overseas funding; 4) developing and expanding export markets; 5) promoting industry adjustment; and 6) securing foreign exchange.

In the literature, two types of empirical studies related to productivity enhancement in China have been found. The first type investigates the impact of OFDI on productivity within the firm, or known as own-firm effect, and the second type evaluates the overall productivity at the country level.

For the first type, a few empirical studies were conducted to evaluate the impact of OFDI on the Chinese home economy. Hsu (2015) explained how the firm-specific factors, industrial factors, and national institution factors affected productivity in Chinese MNEs by using firm level data. Positive and significant results were only found when the industrial factor was considered; however, a negative result was found when Chinese OFDI invests in developed countries. This result implies that the knowledge learnt from MNEs in a developed country does not transfer back to China, but further studies are needed to examine the locational effect on Chinese MNEs.

However, three other empirical studies have opposite findings. Cozza et al. (2015) used data of 368 companies to investigate the effects of Chinese OFDI in advanced European countries. The results did not show a significant immediate increase in productivity; however, four years after the investment, Chinese MNEs experienced a significant increase in their productivity. The researchers estimate there were around 20 to 58 percent points higher than other firms without conducting OFDI. Additionally, they differentiated the effect of greenfield investment and M&A, and they found that greenfield investments experienced greater complementarities between domestic and foreign activities. In research conducted by Huang and Zhang (2017), which used the panel data from Chinese manufacturers over the period between 2002 and 2007, a positive own-firm effect on productivity was found. They identified the absorptive

capability as critical during the improvement, and the absorptive capability related to the product innovation was more relevant than that of the process innovation. A similar result was found in the research of Li et al. (2017), which found that the average productivity in the parent firm grows from 4.9 percent in the first year to 14.5 percent in the third year. Meanwhile, they found the growth in privately owned MNEs benefited more, and the productivity gain increases from 1.8 percent in the first year to 15.2 percent in the third year. Finally, the study also found the productivity gain from OFDI in OECD countries is higher than non-OECD countries.

Regarding the second type of study, the empirical studies on spillovers of Chinese FDI or the overall impact to the Chinese economy is a new research agenda, and there are very few studies in the literature compared with western countries. The first study by Zhao et al. (2010) adopted the TFP concept to explain the impact of OFDI on productivity change in China. They found that a one percent increase in the size of China's OFDI generates 0.33 percent in technical efficiency change and 0.22 percent in technological progress, so in total 0.55 percent TFP growth is generated. In their study, the limitation was the scale of the sample size and the data they obtained. The focus of their study was limited to eight developed countries, and the data used were in nominal values which might have data bias.

2.8 Implications of the Literature Review to this Empirical Study

Among the FDI theoretical frameworks mentioned in the literature review, the investment development path (IDP) builds the interrelationship linkage among IFDI, OFDI, and the economic growth of a country. The whole path is separated into five stages, and the characteristics, roles and motivations of FDI in each stage are closely related to the competitiveness of internal OLI advantages. According to the IDP concept, local firms in China should start market seeking OFDI when they obtain higher levels of ownership (O) and internationalisation (I) advantages which has been confirmed in previous literature summarised in Table 2.4.

However, according to the IDP, Chinese firms should strengthen their equity ownership, such as intellectual property, and start strategic asset investments to gain technology and well-known brands; this expectation is also made based on the springboard approach proposed by Luo and Tung (2007). However, the strategic asset motivation OFDI has not been confirmed by any quantitative studies, and the impact of economic growth of this investment has not been examined. Therefore, three empirical questions are designed in this thesis in order to uncover more evidence to support the theoretical concepts and to connect the motivation of OFDI and the economic growth in China.

The main objective of this study is to review two perspectives in Chinese OFDI by conducting three empirical studies including the motivation of Chinese OFDI and the impact of Chinese OFDI on the home country. Even though researchers have a concern with the explanation power of the conventional theoretical framework in emerging countries, particularly in China, the literature mentioned previously are the foundation of mainstream FDI theories, which is extremely important for the research design of the three empirical questions in this study.

Firstly, the literature review has discussed the motivation of FDI, and discussed that the motivation for developed and emerging countries is different because the MNEs of these two countries have different ownership advantages; therefore, the approach and motivation of OFDI might not be explained by the conventional theories designed by the experience in developed countries. As discussed, many contemporary theories have been designed to explain the role of OFDI, which is the tool to facilitate emerging countries to catch up; however, there are limited empirical studies to support the argument of these contemporary theories. However, two major elements in FDI development of emerging countries are highly relevant to this study, which are the technology development and the government. These two areas are mentioned in each stage of IDP and they are well considered in the research design in this study.

It is shown in the literature that technology is a common ownership disadvantage of MNEs in emerging countries, but it becomes the location advantage of OECD countries when the pool of human capital are developed. Thus, strategic asset seeking OFDI in OECD countries becomes the fastest way to catch up, and this OFDI starts to emerge aided by the encouragement of a government, including China. This motivation of strategic asset seeking and springboard approach mentioned by Luo and Tung (2007) builds the foundation for the research design of the first empirical study, which aims to identify the relationship between the growth of Chinese OFDI in OECD countries and strategic asset seeking through Chinese OFDI.

Other than that, the FDI motivation and political behaviour perspective of Boddewyn and Brewer (1994) explain how governments influence business decisions, which is highly relevant to the focus of the second empirical study. The second study aims to identify the reason for the substantial Chinese OFDI flows to Hong Kong SAR, and also examines any escape force that exists to drive Chinese OFDI further. The results will provide empirical evidence to support the two propositions mentioned by Luo and Tung (2007), i.e. MNEs pursue international expansion aiming at securing preferential treatment offered by governments, and the expansion is a springboard to alleviate domestic institutional constraints.

Secondly, the impact of Chinese OFDI on the home country is examined. In the literature review, though many theories and empirical studies are reviewed, the understanding in this area based on the literature is not clear and no concrete findings are identified. Frankly, the understanding of the impact of OFDI on the home country compared with the impact of IFDI on the host country is significantly limited. Furthermore, the impact of OFDI from a developed country and the impact of OFDI from an emerging country also varies because the motivation of these two OFDIs are not the same, which was emphasised by Kokko (2006). Other than that, the OFDI from an emerging country is highly influenced by the government, which also has the impact of the home country effect. As mentioned by Luo and Tung (2007), MNEs from emerging countries have several common objectives, and the internationalisation is a springboard for catching up. The study of the impact of Chinese OFDI on the home country is an evaluation of the favourable policy promoting Chinese OFDI.

In the literature, the impact on home country and the study of spillovers have mixed results, both in developed and emerging countries. The framework of creating the net effect is also not clear because there are several differing effects. However, the previous studies have provided a good foundation for developing a new regression model for this empirical study, and more empirical studies are necessary to understand the situation better. In the third empirical study, the theories of economic growth, productivity and

the home country impact are applied in the regression model design, in order to identify the impact of Chinese OFDI on the home economy and measure the effectiveness of the Chinese government in encouraging Chinese OFDI.

To sum up, the development of Chinese OFDI is a relatively new topic, and internally there are many factors that affect the OFDI, including the government of host and home countries. Chinese OFDI development is unique, and it seems that China would like to create its own model to further encourage Chinese OFDI, meanwhile this model becomes the channel for catching up. The rapid development of Chinese OFDI creates a need for further research. This study aims to answer some questions, which are still open, in order to shed light on the latest developments in the motivation for Chinese OFDI and the impact of Chinese OFDI on the home economy.

Chapter 3 :

Research Methodology

3.1 Introduction

Research design is an essential step for examining the relationship between data and a theoretical framework within a research paradigm. In order to conduct and evaluate any research, it is important to identify these philosophies and assumptions. This chapter aims to explain the interrelation and the implication of the philosophies to the current research study, and a discussion of the research design and data collection are made. Therefore, this chapter is arranged as shown below. Section 3.2 explains the research paradigm, and examines the philosophical assumptions. A distinction between quantitative research and qualitative research is discussed in section 3.3. Mixed research methods are illustrated in section 3.4. Data selection is discussed in section 3.5. Research ethics of the study is reviewed in section 3.6, and finally section 3.7 describes the implications for the research design of this study.

3.2 Research Paradigm

The paradigm refers to the progress of scientific practice based on people's philosophies and assumption about the world and the nature of knowledge which determines the main

philosophical positions that underlies the core of the research. Guba and Lincoln (1994) stated that a research paradigm is intrinsically associated with the concepts of ontology, epistemology and methodology. In the following, the research ontology, positivism versus social constructionism of epistemological positions and the relationship of epistemology and ontology to the research method are further discussed.

Research ontology

The philosophies and assumptions about the world and the nature of knowledge provide the foundation for researchers to design their research. According to Easterby-Smith et al. (2012), ontology is the philosophical assumption about the nature of reality, which allows researchers to draw from different assumptions when developing methodologies for conducting research. There are two extreme philosophical assumptions, and the major concern in the debate is the question regarding acceptable knowledge in ontology. The key debate in this context is the question of whether researchers should study social science, which is a field that focuses on human behaviour such as management, according to the same principles, procedures and ethos as the natural sciences (Bryman and Bell, 2003).

Positivism versus social constructionism in the epistemological position

As mentioned above, the core position of ontology on the assumptions about the nature of reality deeply influences epistemology. Epistemology is a general set of assumptions

regarding the ways of inquiring into the nature of the world according to Easterby-Smith et al. (2012). There are two extreme views of how research should be conducted, one is positivism and the other is social constructionism or interpretivism.

According to Bryman and Bell (2003, p.14), positivism is an epistemological position that advocates the application of the methods of the natural science to the study of social reality and beyond. This approach seeks the facts or causes of social phenomena, with little involvement of human beings and the human behaviour has no effect on reality; in other words, research, according to positivism, is conducted through hypotheses and deductions, then demonstrates causality as the focus of the explanations.

Besides, constructionism is an alternative to positivism that has held sway for the last half century. In constructionism, reality is not objective and external, instead it is socially constructed and given meaning by people, thus a strategy is needed that respects the differences between people and the objects of the natural science; therefore it is important to require the social scientist to grasp the subjective meaning of social action according to Bryman and Bell (2003, p.16).

The relationship of epistemology and ontology to the research method

According to Bryman and Bell (2003), ontology assumptions, research question formulation and research design are highly related. In principle, the positivistic paradigm tends to produce quantitative data, and a large samples size is needed for hypothesis testing. By definition, quantitative research can be constructed as a research strategy that emphasises quantification in the collection and analysis of data, thus it has incorporated the practices and norms of the natural scientific model of positivism. On the other hand, constructionist research tends to produce qualitative data with a focus on limited samples. Qualitative research is a research strategy that usually emphasizes words rather than quantification in the collection and analysis of data.

Both positivism and constructionism have strengths and weaknesses, and each concept must have some indicators to measure the accuracy mentioned by Riley et al. (2000, p.19). Further analysis in the dimensions of research reliability, research validity and research generalisability are elaborated below. Most likely, the strengths of positivism are the weakness of constructionism in all aspects.

Firstly, reliability is concerned with the credibility of the findings in a research, in other words, it is checking whether a research finding can be repeated. According to Raimond

(1993), reliability is checking whether “the evidence and conclusions stand up to the closest scrutiny”.

According to Collis and Hussey (2003), under a constructionist paradigm, the criterion of reliability is not so much status, it is not important whether qualitative measures are reliable, but whether similar observations and interpretations can be made on different occasions by different observers. On the other hand, for positivism, reliability must be very high, with highly specific and precise data, replication is essential in positivistic studies.

Secondly, validity is the extent to which the research findings accurately represent what is really happening. Low validity indicates an issue with research errors which are mainly caused by faulty research procedures, poor samples and inaccurate or misleading measurement (Collis and Hussey, 2003).

As mentioned above, the positivistic paradigm focuses on the prevision of measurement and the reliability of research, then there is a risk that validity will be very low, in the sense that the measure does not reflect the phenomena the researchers target to be investigating. In contrast, the constructionist paradigm aims at capturing the essence of

the phenomena, researchers target a full understanding of the phenomenon and extract data that is rich in explanatory power, thus validity is higher under this paradigm.

Additionally, there is the concern of representativeness and generalizability of data; Riley et al. (2000, p.21) mentioned representativeness in this context refers to an appraisal of the reliability and validity of data relative to its generalisability. In the positivistic paradigm, the concern is how to generalise the characteristics found in the sample to the greater population. However, in constructionist paradigm's perspective, the core concern is how to generalise from one setting to another.

3.3 Distinction between Qualitative Research and Quantitative Research

According to Antwi and Hamza (2015), the collection of data is one of the critical differences between the two research paradigms; pure quantitative research relies on the collection of quantitative data, while pure qualitative research relies on the collection of qualitative data.

There is much debate about the qualitative approach and quantitative approach; according to Bryman (1984), quantitative methodology is routinely depicted as an approach that applies a natural science, and in particular a positivist approach to social phenomena. Meanwhile, qualitative methodology differs in a number of ways. The

approach is deemed to be much more fluid and flexible than quantitative research in that it emphasizes discovering novel or unanticipated findings and the possibilities of altering research plans in response to such serendipitous occurrences. In the following, a comparison of qualitative and quantitative research is made, followed by mixed methods discussion, and finally it describes the implication of research methods in the research design of this study

Comparison between qualitative research and quantitative research

Data collection methods are the major aspect for making a comparison between qualitative and quantitative research. Anderson and Skaates (2004) mention that the qualitative research studies seek to explore the nature of phenomena. Studies with a qualitative approach are usually based on open-ended interviews and the interpretation of other field data such as internal memos and archival texts, but may also convey quantitative data and statistics. In contrast, by conducting quantitative research, the study uses mainly quantitative data, in order to follow the validation strategy of proposition development and empirical testing. These studies aim at testing a theory driven series of casual relationships, using formal propositions as a device for probing, and formal, statistical testing methods.

In each method, the role of theory is different when researchers use either inductive or deductive reasoning. According to Antwi and Hamza (2015), the qualitative researchers commonly use inductive reasoning when they search for patterns in their particular data; when they make generalizations (e.g., from samples to populations), and when they make inferences as to the best explanation. Ultimately, the logic of confirmation is inductive because we do not get conclusive proof from empirical research. On the other hand, quantitative researchers adopt deductive reasoning when they deduce from their hypotheses the observable consequences that should occur with new empirical data if their hypotheses are true, and they also use this method if they conclude that a theory is false. If they draw a false conclusion, they will then move on to generate and test new ideas and new theories.

Regarding the content of the research, quantitative research normally quantifies the measurement to numbers, which is a very common practice, and researchers only focus on numbers as they analyse based on the data available. However, qualitative researchers do not usually collect data in the form of numbers, they normally conduct observations and in-depth interviews, and the data are usually in the form of words.

By the way, Stake (1995) describes three major differences in qualitative and quantitative emphasis. Qualitative approach is more likely to focus on explanation as

the purpose of the inquiry with more personal involvement of the researcher and knowledge discovery as the result. On the other hand, quantitative approach takes understanding as the purpose of the inquiry with an impersonal role of the researcher and knowledge construction as a result.

3.4 Mixed Research Methods

Mixed methods research involves the mixture of quantitative and qualitative research methods, approaches, or other paradigm characteristics. According to Johnson et al. (2007), mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches for the broad purposes of breadth and depth of understanding and corroboration.

Hurmerinta et al. (2006) mentioned there are various motivations for using mixed methods research. Firstly, it may have an instrumental role, which means the use of a qualitative method facilitates the quantitative part of the study and vice versa; secondly, researchers use mixed methods in order to improve the validity of their research; and thirdly, the use of mixed methods may also be based on the assumption that researchers will acquire deeper understanding of the research subject by employing this research strategy. Furthermore, Greene (2008) believed that the mixed methods approach to

social inquiry has the potential to be a distinctive methodology because the approach distinctively offers deep and potentially inspirational and catalytic opportunities to meaningfully engage with the differences that matter in today's troubled world; however, mixed methods research is much more complicated than mixed methods in theory.

Johnson et al. (2007) mentioned two major types of mixed methods research. The first type is qualitative dominant mixed methods research, which relies on a qualitative, constructivist-poststructuralist-critical view of the research process, while concurrently recognizing that the addition of quantitative data and approaches are likely to benefit most research projects. The second type is quantitative dominant mixed methods research, which relies on a quantitative, postpositive view of the research process, while concurrently recognizing that the addition of qualitative data and approaches are likely to benefit most research projects. However, there is still much discussion addressing the issues of mixed methods research in the philosophical domain.

In international business research, a mixed methods study is commonly used. Hurmerinta et al. (2006) conducted a study and selected four journals with the highest impact factors and a specific focus on international businesses from 2000 to 2003, following an analysis of 484 articles in total, 68 articles adopted mixed methods studies. The mixed methods approach seems to be quite suitable for international business

research due to the increasing pace of change in the global business environment, industry convergence and the rise of emerging markets as research sites, and as research problems related to international business appear to have changed in nature.

3.5 Data Selection

After defining a research design, then the next step is related to the data collection. Secondary data are statistics not gathered for the immediate study on hand but previously gathered for other purposes. Primary data is collected specifically for the purpose of the investigation. Comparing between these two types of data sources, the major advantage of secondary data is time and cost saving.

Primary data

Primary research methods refer to the collection of new data is specifically designed for the research purpose. There are two major groups of data collection methods, one is observation which means that the situation of interest is scrutinized and the relevant facts, actions or behaviours are recorded, which is more objective and accurate; the other one is communication which involves questioning respondents to secure the desired information, this method has the general advantage of versatility, speed and cost (Churchill, 2001). There are different communication methods for collecting data, and the most commonly used are survey and interviews.

Survey is a popular method for collecting primary data, however, an effective survey requiring a good response is not an easy task. Harzing (1997) found that the overall response rate of mail surveys in Europe is only 20 percent, and some Asian countries have lower responses; the findings are similar to Liang et al. (2012) who had found 22 percent in average in a mail survey. Also McCalman (1997) conducted a survey of MNEs in three countries in his Ph.D. study, he obtained 18 percent response rate in the U.S., 23 percent response rate in the U.K., and one percent from Mexico.

Quantitative survey design is an appropriate and useful means of gathering information under three conditions: 1) when the goals of the research call for quantitative data; 2) when the information sought is reasonably specific and familiar to the respondents; and 3) when the researcher has considerable prior knowledge of a particular problem and the range of responses likely to emerge (Bryman, 1984).

However, the internal validity and the reliability are two major concerns. Internal validity refers to the ability of the questionnaire to measure what is intended for it to measure (Saunders et al., 2009). In other words, it means that the questionnaires actually represent what is being measuring. Reliability is the issue of identifying the replicability of findings. This is the advantage of quantitative measures compared with qualitative

ones, because the information collected from qualitative research are not readily subject to replication and verification.

In order to ensure a high quality questionnaire design, the design of the questionnaire should follow the rules summarized by Petra (2009). In the design, the following rules should be adopted, questions should be constructed to be as clear, simple, specific and relevant for the study's research aims as possible; questions should focus on current attitudes and very recent behaviour; more general questions should precede more specific questions; and demographic questions should be put at the end of the questionnaire when applied.

Compared with a questionnaire, interviews have a narrow view of study, the discussion is more in-depth, and feedback is more qualitative but firm specific. When the study lacks sophisticated theory development within a mature discipline, more exploratory research is required, thus, qualitative research is more common.

For interviews, Daniels and Cannice (2004) summarized the motivation and appropriateness of interview-based international business research, and they wrote three situations where interviews may be appropriate: 1. Interview-based studies are well suited for exploratory and theory building studies; 2. Interview-based studies may be

optimal when there is a small population of possible respondents; and 3) interviews may allow researchers to develop a deeper rapport with informants than is possible through written questionnaires. From this point of view, qualitative personal interview methods offer the most promising information to understand the reality of international business, and Yeung (1995) also argued that qualitative personal interviews should not be rejected due to arguments based on "scientific method", as interviews are unlikely to achieve replicability in any research within the social world, including international business research.

In general, there are three different types of interviews, which are structured, semi-structured and unstructured interviews (Stuckey, 2013). Structured interviews are completely controlled by the interviewer, and interviewees have less room to be flexible. Semi-structured interviews have less rigid adherence, the implementation is dependent on how the interviewee responds to the questions or topics addressed by the researcher (Adhabi and Anozie, 2017). Lastly, unstructured interviews lack current understanding; however, certain interviews are very disjointed in their implementation, which qualifies them as unstructured. In theory, unstructured interviews are controlled conversations that bend towards the interests of the researcher.

Different from questionnaires, conducting interviews is more challenging because of the various contexts. Marschan-Piekkari Rebecca et al. (2004) mentioned researchers should consider the context of the research process as well as the context of the phenomenon during the interview. In the interview process, there are four interdependent levels of context: 1) individual context refers to the context of both the interviewer and interviewee in terms of external influences, the degree to which the individual context of the interviewer differs from that of the interviewees plays a role in the dynamics of the interview. 2) Interview context consists of situational factors such as the moods of the interviewee and interviewer, the setting in which the interview takes place, the time pressure on the interviewee, the number of interruptions and other factors. 3) Organisation context considers the type of organisation including size, structure, strategy, culture, history as well as other factors which are internal context; and 4) external context encompasses the national culture, political, economic and industry macro environment.

According to Marschan-Piekkari Rebecca et al. (2004), these four contextual levels are closely interwoven and influence each other, and they are also influenced by the ontological and epistemological stance adapted by the researchers. Even if the researchers do not adopt a contextualist approach, they inevitably make decisions about

each context on the basis of their assumptions about the nature of social reality and knowledge production.

Secondary data

Since the secondary data are collected for other purposes, there is the issue of fitness of the data, that means the data collected might not be suitable for the purpose of the investigation, and normally assumptions are made in order to use the data effectively. Other than that, secondary data are insightful to help the researcher to better state the problem, and provide comparative data by which primary data can be more insightfully interpreted.

When determining the overall data suitability, the critical criteria are measurement validity and coverage. As mentioned, validity is the extent to which the research findings accurately represent what is really happening, if the secondary data fail to provide the information needed, then invalid answers would be found. Another factor is the data coverage, which refers to the availability of sufficient data and variables to answer the research questions for the time being (Saunders et al., 2009).

Data issue remains an obstacle for conducting Chinese empirical research. Inconsistency and unavailability of data make raw data collection in China more difficult. Chow (2006) has indicated Chinese official statistics are not fully reliable and

do not comply with international standards in general; in other words, the official data provided by National Bureau of Statistics of China has an issue of measurement validity, so reconstruction is needed for some research purposes.

Chinese OFDI data also has the same problem, China has only published its OFDI data in a format that is consistent with OCED and IMF standards since 2003 (Cheung and Qian, 2009, OECD, 2008). OECD (2008) considers that all OFDI data published by the Chinese government before 2003 were seriously underestimated; the statistics do not report illegal, non-approved capital transfers that cover further investments made after the first approval and only equity investments are classified as OFDI. Therefore, the study period of three empirical studies are beyond 2003.

Besides the data of Chinese OFDI, other variables regarding factor inputs and outputs have similar data issues because the Chinese official statistics may not be reliable and do not comply with international standards. A separate discussion is made in each empirical chapter to address these data issues.

3.6 Research Ethics

In the research design, the choice of topic and the data collection method should be governed by ethical considerations. The studies are conducted ethically and follow the

code of practice for ethical research at Lancaster University, the self-assessment of the thesis has been approved by the Research Ethics Officer.

The data collection method for the thesis utilizes human interactions in the survey and interview, thus the questions were designed and the method for collecting data have considered the necessary ethical features including informed consent, voluntary participation, participants right of withdrawal at any time, and data destruction procedures after withdrawal. All of the above are clearly mentioned in the participant information sheet and invitation letter for participating in the academic research. For the interviews in particular, a separate invitation letter was sent to the organisation of each interviewee, and the interviews were conducted after the permissions were granted officially.

3.7 Implications for the Research Design of this Study

In this chapter, a comprehensive research paradigm is described and it has often been observed that each research methodology has strengths and weaknesses, and that no particular method is intrinsically better than another methodology. Thus, in the actual practice of the current research, so as to have a better balance of reliability, validity and generalisability, both positivism and constructionism propositions are taken,

particularly in the research area of Chinese OFDI, because there are too many undefined aspects in the research area. Moreover, accessibility of data is one of the obstacles in conducting research in China, therefore multi perspectives through both quantitative and qualitative research methods are adopted in order to gather the views of human beings in a small sample group and also understand the causality of the phenomena from a large data set, which is known as triangulation.

In the research design, the most critical concern is that the research methods which are undertaken should be relevant to the research question in the particular study. To be more specific, among the three research studies, there are two studies which evaluate the Chinese OFDI at a macro view, they are the investigation into the role of government on strategic asset seeking and Chinese OFDI in OECD countries and the impact of Chinese OFDI on home economy in respect to productivity perspective. These two studies aim to identify the statistical relationship among the tested variables and Chinese OFDI.

In the investigation into the role of strategic asset seeking and Chinese OFDI in OECD countries, the objective is to identify the determinants of strategic asset seeking motivation and evaluate the impact of government policies on the level of Chinese overseas investment since 2003; meanwhile, another study of the impact of OFDI on

Chinese economy in productivity perspective aims to evaluate the home country effect of Chinese OFDI in productivity. Because of the nature of causal explanation, a positivistic paradigm thus is more appropriate, and regression models are developed in each empirical study for hypothesis testing.

Besides, there is one study which aims to explore Chinese OFDI in Hong Kong SAR at a firm level; an interpretivism approach would definitely help to understand the phenomena better. A qualitative in-depth interview with open ended questions would provide more comprehensive understanding for the study. However, considering the generalizability of the result, a small group of interviewees is not feasible to generalise the characteristics found in the sample to the population; as such a questionnaire survey is adopted to address this issue. In this study with a survey using a quantitative method and interview using a qualitative method, the design of this mixed methods approach is classified as qualitative data analysed quantitatively; nowadays, qualitative data analysed quantitatively is the most common type of mixed methods according to the study of Hurmerinta et al. (2006).

Overall, the implementation of mixed methods aims to make use of both quantitative data and qualitative insights and illuminations to increase the confidence in the accuracy in observation, moreover the method of triangulation can help overcoming the potential

bias and sterility of a single-method approach according to Collis and Hussey (2003). Clearly, the findings of this empirical chapter should support the other two studies solely adopting quantitative research methods.

In data collection perspective, there are two quantitative research studies on the Chinese OFDI at a macro level; the Chinese OFDI data can be collected through secondary sources. For instance, the data for Chinese OFDI at the national level is normally available in the China Commerce Yearbook and the Annual Statistical Bulletin of China's Outward Foreign Direct Investment. In addition, raw data about the Chinese economy is obtainable from the China Industrial Economic Statistics Yearbook and China Commerce Yearbook. All of above sources are official publications by the National Bureau of Statistics of China (NBSC).

Raw data on host countries is available in the database of World Bank Development Indicator, Worldwide Governance Indicator, International Human Development Indicators, and World Intellectual Property Organization. Most of the economic data at the country level is obtainable; yet, data can be missing for emerging countries.

The above secondary sources are commonly used in international business research, as most of the data are provided by official institutions, and there are international

standards or guidelines for the raw data collection, such as OECD Benchmark Definition of Foreign Direct Investment - 4th Edition; thus, to a certain extent, the validity and reliability of the data are relatively high.

Chinese OFDI information is also accessible from magazines and newspapers. The Chinese MNEs information is available on their official web-sites, annual reports and through their listed stock markets such as Hong Kong Stock Exchange (HKEx). However, secondary source data is not comprehensive enough for the firm level study, and secondary data is not 100 percent fit for the research questions; as such the research relies heavily on primary data instead.

As mentioned previously, the survey using quantitative methods and interview using qualitative methods are adopted based on an integrated design. This design aims to facilitate collecting both quantitative and qualitative information from 876 subsidiaries of Chinese enterprises that are listed on the Hong Kong stock market and operate in the Hong Kong SAR. The questionnaire is an effective way to approach a large group of participants, and it facilitates the development of an overall picture of the situation through numerical figures; the responses from the questionnaire are close ended and quantitative. However, a low response rate is a potential risk, particularly in Hong Kong SAR which has been shown to have the lowest response rate in international mail

surveys (Harzing, 1997). Besides, semi-structured interviews are conducted to provide enough flexibility for more in-depth discussion.

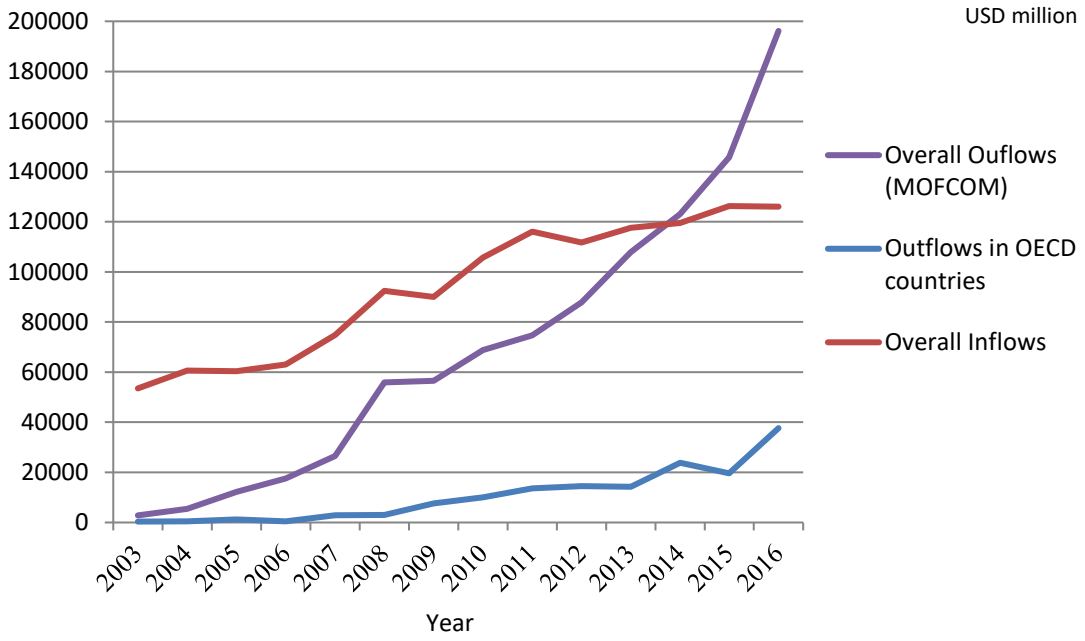
Chapter 4 :

An Overview of Outward Foreign Direct Investment in China

4.1 Introduction

The outbreak of the last financial crisis had a negative impact on global FDI growth; in general, the flows dropped 13.5 percent in 2008 with Europe and the U.S. as the most affected regions, the changes were -25.7 percent and -17.6 percent respectively according to World Investment Report 2009. In contrast, OFDI flows from emerging countries increased 2.5 percent in 2008 and were mainly contributed by China in particular, and the internationalisation of Chinese enterprises through OFDI more than doubled and OFDI flows reached USD 55.9 billion according to the Ministry of Commerce (MOFCOM). After 2011, the OFDI grew significantly as OFDI stocks tripled in value from USD 424.78 billion in 2011 to USD 1,357.39 billion in 2016, and the number of Chinese MNEs increased to 24,400 as shown in Figure 4.1.

Figure 4.1: Nominal Inflow and Outflow of Chinese FDI (2003-2016)



Source: World Investment Report, UNCTAD and China Statistics Yearbook, National Bureau of Statistics of China

However, Chinese OFDI is still at an early stage compared with developed countries. Background information on Chinese OFDI is discussed in this chapter to provide a relevant overview. Section 4.2 explains the process and details of each development stage of Chinese OFDI. Then section 4.3 illustrates the source of Chinese OFDI. Section 4.4 explains the geographical and sectoral distribution of Chinese OFDI, which helps to draw the overall picture of Chinese OFDI distribution. Section 4.5 further examines Chinese OFDI in Hong Kong SAR, which received the highest Chinese OFDI flows annually. Section 4.6 highlights the role of government in Chinese OFDI. Finally, section 4.7 concludes the chapter.

4.2 Development of Chinese OFDI

In reviewing the history of OFDI development, it is found that OFDI was overlooked at the early stage of economic reform. Different from IFDI, OFDI was not a focus in the "open door" policy and OFDI was at a small scale. After four decades of development, the scale and the nature of Chinese OFDI have rapidly changed, and the whole development process can be separated into four to five stages. Table 4.1 lists different views regarding the Chinese OFDI development process in previous studies (Buckley et al., 2007, Luo et al., 2010, Ren et al., 2010, Liu and Scott-Kennel, 2011, Zhang and Daly, 2011, Voss, 2011, Wu and Chen, 2001). The whole process is generally classified from an emergency stage in 1979 followed by Deng Xiaoping's south visit which led to the next stage through the early 1990s. Subsequently, it went one more step further when China worked on Pre-WTO accession and started "Go Global" planning.

In contrast with previous studies, this study views the development of OFDI differently as the period between 1979 and 1984 in the OFDI stage classification should not be considered because the OFDI was at a small scale and the idea of setting up overseas enterprises was proposed in 1979. Additionally, only state-owned trading corporations under the Ministry of Trade and Economic Cooperation (MFTEC, current Ministry of

Commerce) or provincial level economic and technological cooperatives were allowed to set up international affiliates (Buckley et al., 2008).

The situation changed when a sophisticated system was established in 1984 and the first OFDI regulation was proposed. Moreover, two new stages from 2006 to 2015 and 2016 onwards are proposed in this study. For the new stage from 2006 to 2015, a new regulation regarding the approval and encouragement of privately-owned enterprises was officially promulgated. Since 2006, Chinese private owned enterprises have been able to initiate OFDI activities which has become a driving force of Chinese OFDI. The stage from 2016 onwards is caused by the start of the "One Belt One Road" policy mentioned in the 13th five-year national development plan for 2016-2020. Below is a detail description of the different stages of Chinese OFDI development.

Table 4.1: OFDI stage in China

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Liu and Scott (2011)	1979-1983	1984-1991	1992-1998	1999 onwards	
	Emergency	Early Growth	Uneven development	Rapid expansion	
Buckley et al. (2007)	1979-1985	1986-1991	1992-1998	1999-2001	2002 onwards-
	Cautious internationalisation	Government encouragement	Expansion and regulation	Implementation of the Go Global policy	Post WTO period
Zhang and Daly (2011)	1982-1991	1992-2000	2001-		
	Initial stage	Fluctuating stage	High growth stage		
Luo, Xue and Han (2010)	1984-1990	1991-2000	2001-		
	Fresh Flower	Finding the stepping stone	Going aboard		
Wong and Chan (2003)	1979-1985	1986-1991	1993-1998	1999-2001	
	State Monopoly	Liberalisation	Tighten Policy	Going out	
Ren, Liang and Zheng (2010)	1979-1990	1991-2000	2001-		
Wu and Chen (2001)	1979-1983	1984-1985	1986-1992	1993 onwards	
Voss (2011)	1979-1985	1986-1991	1992-1998	1999-2001	2002 onwards
	First step on international grounds	Government encouraged Chinese OFDI	Deng's journey to the South	Pre-WTO accession and Go Global planning	Accession to WTO and Go Global execution
This study	1984-1991	1992-1998	1999-2005	2006-2015	2016 onwards
	First OFDI law	Deng's south visit	Go Global policy	Start of private investment	Start of One Belt, One Road

Stage 1: 1984-1991

In 1984, the first official regulation for OFDI was proposed (Luo et al., 2010); MFTEC proposed "Circular concerning approval authorities and administrative principles for opening up non-trade joint venture overseas" and approval was granted only for

companies with export licenses. Therefore, the objective of OFDI in this stage was to accumulate foreign exchange and stimulate exports.

Stage 2: 1992-1998

This was a period of exploration, Chinese institutions aimed to evaluate the effectiveness of OFDI. The liberalisation of OFDI started when Deng Xiaoping visited to Shenzhen. OFDI became a part of the five-year plan and was endorsed by Deng's successor, Jiang Zemin. The direction changed in 1997 as the Asian financial crisis slowed down the development of OFDI and worried about losing control of state assets and economic reform authority made the government tighten all OFDI approval procedures (Buckley et al., 2008). The key policies in this stage, which included the Regulations on Approval and Administration of Non-trading Overseas Enterprises and Supplemental Provisions on Administration Measures on Foreign Exchange for Overseas Investment, extended the scope of OFDI and relaxed some restrictions in foreign exchange control, and allowed access to foreign exchange for OFDI projects under government approval (Luo et al., 2010).

Stage 3: 1999-2005

Year 1999 was critical in the Chinese OFDI development path; the government confirmed that upgrading the industry structure and strengthening the international

competitiveness were key goals in the 10th Five-Year Plan for National Economic and Social Development. The government officially initiated the “Go Global” OFDI policy in 2000, which combined with tax incentive, foreign exchange assistance, and financial support policies under Measures of Capital Support for Small and Medium Enterprises to Developed International Markets that were promulgated in 2002. Other measures included Simplifying Foreign Exchange Administration Relating to OFDI in 2003 and Providing Credit Support to Key OFDI Projects encouraged by the State.

China became a member of the World Trade Organization (WTO) in 2001, which forced China to loosen restrictions in order to maintain a higher level of opening and China was also required to modify existing policies to provide a more transparent and favourable environment for OFDI. The State Development and Reform Commission (SDRC) redefined the scope of OFDI in this stage; Chinese OFDI included these categories 1) seek natural resources; 2) invest in manufacturing that promotes export of technologies, products and equipment; 3) establish R&D facilities abroad to bring in technology, knowledge and human capital; and finally 4) conduct M&A to strengthen the competitiveness and market exploration of firms (Ren et al., 2010).

In 2004, the Ministry of Commerce (MOFCOM) and Ministry of Foreign Affairs released the Guidelines for Investments in Overseas Countries’ Industries. The

guidelines aimed to help local firms identify potential projects in each sector of host countries and list several recommended OFDI projects in different industrial sectors.

Stage 4: 2006-2015

The "Go Global" policy continued in the 11th five-year plan which outlined the 2006-2010 government plan and restrictions of OFDI were released further with the promulgation of Encouraging and Supporting "Go Global" of Privately-Owned Enterprises (Draft). This was the first official document to accept OFDI from private-owned enterprises and it laid down the foundation for further refinements in 2008 and 2009 (Luo et al., 2010).

In 2008, the China Banking Regulatory Commission established Guidelines on Risk Management of Loans Extended by Commercial Banks for Mergers and Acquisitions to induce legal commercial lending which had been prohibited. In 2009, MOFCOM released the Measures for the Administration of Outbound Investment which eased requirements and simplified procedures for OFDI. During the same period, State Administration of Foreign Exchange issued the Notice on Certain Issues Relating to Foreign Exchange Administration on Offshore Lending by Domestic Enterprises which allowed offshore lending to finance the overseas operations of Chinese enterprises.

During the financial crisis in 2008 and 2009, the internationalisation of Chinese enterprises through OFDI nearly doubled, while global FDI fell by 20 percent. In 2011, OFDI flows reached USD 68.8 billion and approximately 40 percent was conducted by merger and acquisition (M&A). China's FDI inflow and outflow ratio was 1.55 to 1 in 2010 which had significantly narrowed from 6.4 to 1 in 2005 (Cheung and Qian, 2009). China OFDI flows showed dynamic growth, and a positive net outward investment (NOI) has existed since 2015. In 2016, OFDI flows reached USD 196.15 billion, which ranked the second largest behind the U.S. among countries in the world. Furthermore, China's FDI inflow and outflow ratio was 0.64 to 1 in 2016.

However, China still maintained a low level of OFDI stocks compared with developed countries. In 2011, Chinese OFDI stocks were USD 424.78 billion and ranked the thirteenth largest among all countries in the world (UNCTAD, 2012). The U.S. and the U.K. maintained their leading positions and they accumulated USD 4,500 billion and USD 1,731 billion of OFDI stocks respectively. After several years of implementing the "Go Global" strategy, China OFDI stocks increased to 1,357.39 billion, and it ranked the sixth largest among all countries in the world in 2016, behind the U.S., Hong Kong SAR, the U.K., Japan and Germany.

Stage 5: 2016 onwards

"One belt one road" has been proposed by Xi Jinping and it becomes the core strategic element in the 13th five-year national development plan for 2016-2020. Its objective is to make a new strategy to sustain China's appetite for growth at a time when developing neighbours are experiencing rapidly rising demand by connecting 60 countries among China, Asia, Africa and Europe. At this moment, the "one belt one road" just starts, Chinese government has built the basic infrastructure to support the project such as the establishment of the Asia Development Bank. Because of the early development stage, it is too early to make further comment on its effectiveness.

4.3 Sources of Chinese OFDI

The sources of Chinese OFDI in terms of ownership and origin of province are noteworthy. Through 2010, 66.2 percent of Chinese OFDI stocks were invested by state-owned companies, followed by limited liability companies which contributed 23.6 percent of total OFDI stocks, and the remaining balance of 1.5 percent was by private owned enterprises. Among OFDI stocks excluding the financial sector, 77 percent of assets were owned by central government related companies and 23 percent by provisional institutions. In 2016, the situation was similar with 54.3 percent of Chinese OFDI stocks invested by state-owned companies, followed by limited liability

companies which contributed 17.8 percent of total OFDI stocks; however, the proportion of private owned firms increased, and took 8.6 percent of total stocks.

The top three provinces which had the most Chinese MNEs were Zhejiang, Guangdong, and Jiangsu in 2010, all located in the coastal region. In terms of OFDI stocks, Guangdong, Shanghai and Zhejiang had the most investments in foreign countries. In 2016, Guangdong, Shanghai and Beijing had the most investment stocks in foreign countries, and Zhejiang dropped to the fifth.

Among the USD 74.7 billion OFDI flows in 2011, 42 percent was incremental equity investment, 32.8 percent was retained earnings, and the balance was for other investments. In terms of OFDI stocks, the data for 2011 showed 33.4 percent from equity investment, 40.2 percent from retained earnings, and 26.4 percent from other investments. In 2016, incremental equity investment increased to 58.2 percent of OFDI flows, 15.6 percent from retained earnings, and the balance was other investments.

4.4 Geographical and Sectoral Distribution of Chinese OFDI

After 2011, OFDI grew significantly, OFDI stocks tripled in value from USD 424.78 billion in 2011 to USD 1,357.39 billion in 2016, and the number of Chinese MNEs increased to 24,400. In general, the China OFDI strategy is not diverse and most OFDI stocks are concentrated in a few locations and industrial sectors. From a geographic perspective, 90 percent of OFDI stocks were invested in 20 countries in both 2011 and 2016. Based on 2011 official figures, 71.4 percent were distributed in Asia and 61.7 percent of total stocks were particularly invested in Hong Kong SAR. Figure 4.2 shows the Chinese OFDI in each continent.

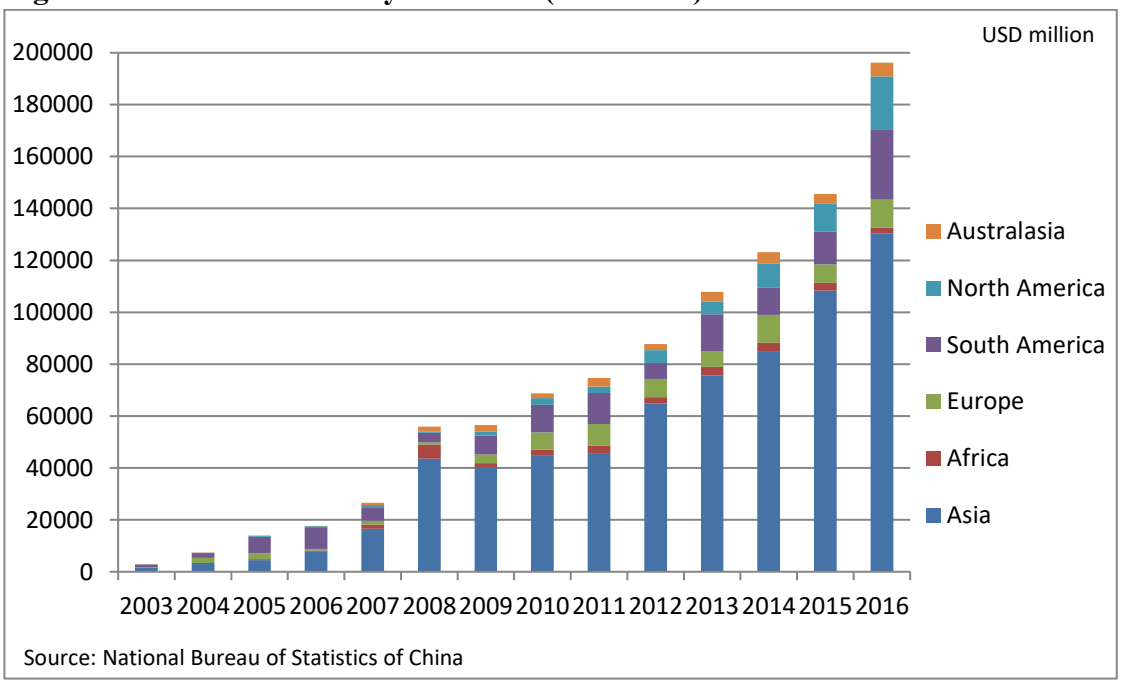
In terms of flows, Hong Kong SAR maintained its leading role and received 55.9 and 47.8 percent of total China OFDI inflows in 2010 and 2011 respectively. The situation in 2016 did not change much, 57.5 percent of total flows were invested in Hong Kong SAR.

Outside Hong Kong SAR, ASEAN is important and potentially a significant region for Chinese OFDI (Frost, 2004). ASEAN has traditionally been the core recipients of Chinese investment. Total Chinese OFDI flows to ASEAN was USD 7 billion in 2011 and these were motivated by expanding overseas networks and securing a stable supply

of resources according to Wu and Yeo (2002). In 2016, the OFDI flows in ASEAN were USD 10.3 billion.

Investment in Europe keeps continues to rise, 26.8 percent growth in 2011 were achieved. Meanwhile, investment in North America increased by 72.2 percent in 2010. In 2016, investment flows in Europe were USD 10.7 billion, and they spread to Germany, Luxembourg, France, the U.K., Russia and the Netherlands. Investment in North America also grew in 2016, the U.S. was the second largest host country of Chinese OFDI flows, and it received 16.90 billion OFDI flows, while Canada received 2.87 billion. Finally, the total proportion of Chinese OFDI flows in OECD countries rose to 19.2 percent in 2016 from less than 6 percent in 2006.

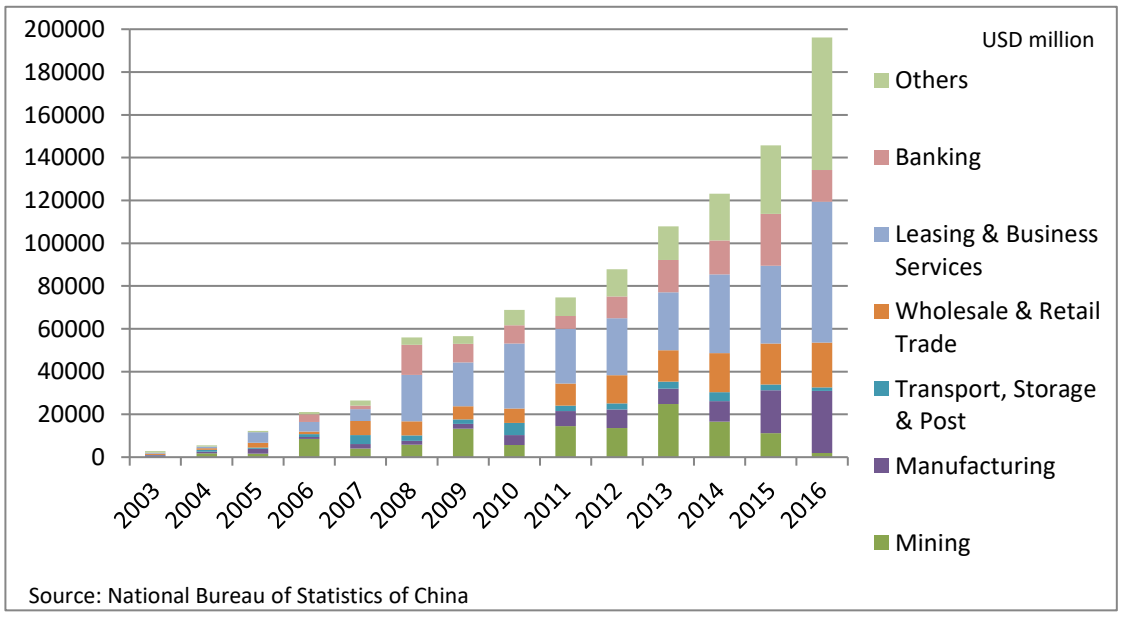
Figure 4.2: Chinese OFDI by continent (2003-2016)



From a sector perspective (Figure 4.3), 88.3 percent of China OFDI stocks were concentrated in six sectors in 2011. The largest sector was leasing and business services which took 30.7 percent of Chinese OFDI stocks, and banking was the second largest sector.

In 2016, 68.4 percent of China OFDI flows were concentrated in six sectors. The largest sector was leasing and business services which took 33.6 percent of Chinese OFDI stocks. The manufacturing sector was the second largest, but 2016 was a special year because the high OFDI flows in manufacturing were caused by two M&A activities; the banking sector, mining sector, wholesale and retail trade sector, and transport, storage and post sector were the other major sectors.

Figure 4.3: Chinese OFDI by industry (2003-2016)

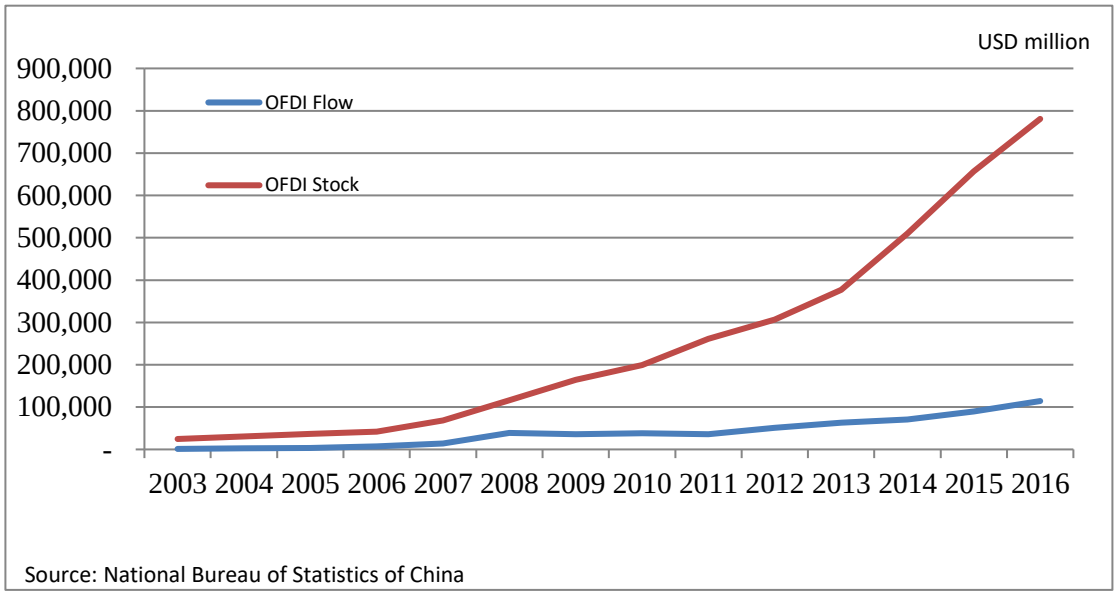


Source: National Bureau of Statistics of China

4.5 Chinese OFDI in Hong Kong SAR

The Hong Kong SAR is the largest host destination of Chinese OFDI. In 2003, around USD 1.149 billion flows were invested in Hong Kong SAR and the flows grew continuously reaching USD 114.233 billion in 2016 which is shown in Figure 4.4. From a global perspective, the Chinese OFDI investment flows in Hong Kong SAR were 61.6 and 58.2 percent of total Chinese OFDI flows in 2015 and 2016. It also accumulated 57.5 percent of total Chinese OFDI stocks in 2016.

Figure 4.4: Nominal Chinese outflow in Hong Kong SAR from 2003 to 2016



Among OFDI in Hong Kong SAR in 2016, the dominant sector with the highest stocks was leasing and commercial services which took 47.7 percent of stocks. The financial services sector took 13.5 percent of stocks. Third was wholesale and retail and

hospitability sector, followed by mining, metals and other commodities sector and the manufacturing sector. However, the ranking of the top 5 by OFDI flows had a different picture, the leasing and commercial services sector and financial services sector kept the same positions, the manufacturing sector ranked third, followed by the property sector and the IT and communication sector which were the most popular sectors according to the 2016 Statistical Bulletin of China's Outward Foreign Direct Investment.

Based on these OFDI flows and stocks figures, the leasing and commercial services sector and financial services sector were the major focus for Chinese OFDI activities in Hong Kong SAR. The manufacturing sector and IT and communication sector recently had significant growth because of global M&A activities. In manufacturing, the growth was contributed by the internal restructure of Haier who bought GE Appliances for US$5.6 billion; the asset of GE Appliances merged with the subsidiary of Haier in Hong Kong SAR. For IT and communication, the growth was contributed by the takeover of 84 percent of Supercell in Finland by Tencent. Further details of OFDI in each sector in 2016 are described in Table 4.2.

Table 4.2: Chinese OFDI in main sectors of Hong Kong SAR in 2016

Sector	Nominal OFDI Stocks (USD million)	Proportion (%)	Nominal OFDI Flows (USD million)	Proportion (%)
Leasing and Commercial Services	372,493.36	47.70	48,506.41	42.50
Financial Services	105,046.16	13.50	15,805.59	13.80
Wholesale and retail & hospitality	103,934.01	13.30	14,930.55	3.10
Mining, metals & other commodities	47,806.17	6.10	(3,023.00)	(2.60)
Manufacturing	39,094.54	5.00	10,697.30	9.40
Transportation, logistics & distribution	29,795.39	3.80	1,452.68	1.30
Property	27,453.04	3.50	9,244.29	8.10
IT & telecommunications	16,878.97	2.20	5,162.38	4.50
Other service industry	13,163.96	1.70	4,479.29	3.90
Electricity, gas and water production and supply	6,865.86	0.90	1,743.16	1.50
Civil engineering & construction	4,566.05	0.60	939.16	0.80
Research on science	4,793.75	0.60	893.42	0.80
Cultural, sports and entertainments	3,800.29	0.50	1,305.95	1.10
Agricultural, food & beverages	1,878.76	0.20	788.46	0.70
Environment and facility management	1,668.55	0.20	617.75	0.50
Others	1,506.03	0.20	689.22	0.60
Grand Total	**114,232.61**	**100.00**	**780,744.89**	**100.00**

4.6 The Role of Government in Chinese OFDI

The role of government is critical within Asian economic structure, including China. Previous literatures suggest that formal institutions including government policy, bureaucratic administration and state owned enterprises are essential factors that influence patterns and magnitudes of Chinese OFDI (Ren et al., 2010, Buckley et al.,

2008, Luo et al., 2010). Details of government policy in China; Chinese bureaucratic administration and state-owned enterprise are explained below.

Government policy

Chinese OFDI policies were promulgated in the later stage of economic reform, and the government intends to create an incentive and reduce risks for OFDI, and streamline administrative procedures and controls. All of the measures aim to encourage enterprises in both state-owned sector and private sector to invest abroad, and the liberalization of China OFDI in the private sector is another breakthrough during the process of internationalisation of Chinese enterprises. Appendix 4.1 describes the details of measurement.

Other than official policies, the government also offered different incentives to encourage enterprises to invest abroad. According to OECD (2008), the incentives can classify as financial incentives and non-financial incentives. When the government identifies an objective for an OFDI project matching with priority categories, local enterprises can access financial incentives such as below-market rate loans, direct capital contribution, and subsidiaries associated with official aid programmes. Official aid programmes also provide to construction contractors and/or equipment and material suppliers, for large scale infrastructure projects in host countries.

The Chinese government provides non-financing incentives to local enterprises with exemption from corporate income tax for five successive years after the first year of OFDI. Additionally, some local governments offer extra incentives to encourage firms to invest abroad.

Bureaucratic administration

All government policies mentioned have been implemented by different players within the China bureaucratic administration system. The whole system is managed by the State Council and executed by different departments under the council, which includes the People's Bank of China (PBOC), State Administration of Foreign Exchange (SAFE), Ministry of Commerce (MOFCOM) and State Development and Reform Commission (SDRC).

The State Council takes the role for blueprinting the development in China with all long-term strategies of OFDI decided by the council. Under the State Council, there are three authorities including PBOC, MOFCOM and SDRC which take the role of monitoring and executing OFDI policies. PBOC takes the role of China's central bank, and implements all monetary policies and foreign exchange policies. MOFCOM was formed in 2002 and replaces Ministry of Foreign Trade and Economic Cooperation (MFTEC) and Ministry of Domestic Commerce. From an OFDI perspective,

MOFCOM is the administration and operation department to manage all OFDI activities and executes OFDI regulations. Several administrative units were formed under MOFCOM to draft OFDI regulation, and to execute and monitor the OFDI activities. SDRC formerly the State Development Planning Commission is a department in the State Council that designs China's overall economic and commercial policies and provides a blueprint of Chinese OFDI development.

Other than MOFCOM, there is another department established by the State Council to manage all state-owned assets in non-financial sectors, i.e. the State-Owned Assets Supervision and Administration Commission (SASAC). It owns all shares of non-finance state-owned companies and it controls around 170 national-wide state-owned enterprises.

In this bureaucratic administration system, all firms that apply for OFDI must receive an Outbound Investment Approval Certificate in order to complete foreign currency, banking and customs procedures with the relevant Chinese government agencies. According to the new regulation promulgated by MOFCOM in 2009, all applications of OFDI with an amount higher than USD100 million or setting up an affiliate for foreign listing and investment in a country without a diplomatic relationship with China must receive central MOFCOM approval. Investments that amount to less than USD100

million or an investment that involves exporting in the natural resources sector must gain approval from MOFCOM at the provincial level, other investments can be handled by local MOFCOM offices (Brver, 2010).

Government ownership

Even though the Chinese government implemented economic reforms to restructure state-owned companies, the government still maintains a dominant role in these companies and SASAC is the government authority that manages them. According to Morck et al. (2008), the government owns an average of 65.9 percent non-tradable shares in 1,381 listed companies. Based on their analysis, the government can neglect the wish of a small proportion of shareholders and make corporate decisions to enforce national interest. Moreover, the top 30 companies that conducted OFDI between 2004 and 2006 were state-owned companies except for Lenovo and Huawei directly and indirectly, yet the government took dominant shares in these two companies (Morck et al., 2008). Also, among the 12 largest MNEs from China ranked by foreign assets, only ZTE Corporation (No.12) is a privately owned firm (Deng, 2004).

Empirical researches also confirm the vital role of institutions in Chinese OFDI. Alon (2010) found a positive impact of China's institutional factor on internationalisation of Chinese private and state-owned enterprises. It was found that market seeking, natural

resource seeking, and trade seeking OFDI were significant at an aggregate level in both private and state-owned enterprises. However, natural resource and asset seeking only apply to state-owned enterprises. Yan et al. (2010) studied institutional influence in terms of state ownership, relational assets and financial capability and found that all of them positively contributed to Chinese OFDI; state-owned enterprises look for strategic assets in their OFDI, while private enterprises seek for relational assets abroad to equip their internationalisation knowledge (Eriksson et al., 1997).

4.7 Conclusion

Based on the above information of Chinese OFDI, it is clear that Chinese OFDI has taken a different approach and different pace of development compared with OFDI from developed countries. Certainly, MNEs from China have clear and straightforward objectives and their internationalisation is a springboard for catching up; therefore, the pattern and the geographical distribution of investment are strategically decided which are strongly influenced by the guidance and policies of the central government.

As mentioned previously in Chapter 2, there are two major trends of OFDI development, which are the increasing role of strategic asset seeking motivation and the stronger influence of government in OFDI. The growth of OFDI in OECD countries such as the

United States and several countries in the E.U. show that the Chinese MNEs are looking for high technology and other strategic assets. Meanwhile, the sophisticated and well-established system of the Chinese government mentioned in section 4.6 shows that the Chinese government has high intention to stimulate the internationalisation of Chinese MNEs, and actively participates in the whole process.

Appendix 4.1 Key OFDI regulations in China since 2005

Item	Regulation	Enunciator	Time Issued	Key issues
1	Report Requirements for Overseas Mergers and Acquisitions	MOFCOM; SAFE	Mar, 2005	1) Better reporting system for enterprises intended to conduct M&A to MOFCOM; 2) MOFCOM has better supervision on each M&A
2	Further Measures on Foreign Exchange Administration Stimulating OFDI	SAFE	May, 2005	1) To extend the exchange approval mechanism to national level. 2) Limit of foreign exchange available for all OFDI increased to 5 billion
3	Encouraging and Supporting Go-Global of Private Owned Enterprises (Draft)	MOFCOM; SAFE	Feb, 2006	First regulation to accept and guide private owned OFDI
4	Supplement Measures of Foreign Exchange Usage for OFDI	SAFE	Jun, 2006	1) To release all quotas of foreign exchange for OFDI purpose 2) To extend the source of foreign currencies i.e. self-owned foreign currencies, the foreign currencies exchange in financial institutions and domestic and overseas loan in foreign currencies
5	Notice on Statistical Report of OFDI	MOFCOM	Jan, 2007	To request formal reporting of OFDI projects of private firms
6	Guidelines for Investments in Overseas Countries' Industries 2007 Version	MOFCOM, MFA	Oct, 2007	To identify potential projects in each sector and host country
7	Guidelines on Risk Management of Loans Extended by Commercial Banks for Mergers and Acquisitions (the Guidelines)	China Banking Regulator Commission	Dec, 2008	To allow all Chinese incorporated banks lend money to enterprises for M&A purpose
8	Measures for the Administration of Outbound Investment	MOFCOM	Mar, 2009	1) To simplify requirements and procedures for applying OFDI. 2) To delegate higher authority of approval to the province level

Item	Regulation	Enunciator	Time Issued	Key issues
9	Notice on Certain Issues Relating to Foreign Exchange Administration on Offshore Lending by Domestic Enterprises	SAFE	Jun, 2009	To allow Chinese enterprises to finance the operations abroad by offshore lending
10	Guidelines on Investing Aboard 2011	MOFCOM, NDRC, MFA	Sep, 2011	1) To adopt the approach of mutual benefit, in which to combine the firms' own multinational operation needs with Chinese industrial development goals and development priorities of host countries. 2) To avoid blind investment, and ceaselessly improve sustainable development of overseas investment of local enterprises.

Source: Luo et al. (2010), Brver (2010)

Chapter 5 :

An Investigation into the Role of Strategic Asset Seeking by Chinese OFDI in OECD countries

5.1 Introduction

Learning from the previous experiences of MNEs from both developed and emerging countries, there is a development pattern of FDI according to the IDP framework. OFDI development and patterns are not only related to the comparative advantages and disadvantages of home countries, but they are also influenced significantly by relevant institutions (Nachum et al., 2000). In emerging countries, governments take an active role and have strong influence on FDI activities, thus institutions are additional and crucial elements that influence firms' internationalisation pace and decision making (Buckley et al., 2008, Luo and Tung, 2007, Yaprak and Karademir, 2010).

The Chinese government demonstrates the importance of the role of government on the internationalisation of local enterprises. In the late 1990s, the Chinese government proposed the "Go Global" OFDI policy, which was the essential element in the 10th Five-Year Plan. The establishment of this policy was to kick-off a strategic move to redraw the blueprint of Chinese economic development by redefining and upgrading

the industry structure, as well as improving the international competitiveness of Chinese enterprises because the Chinese economy heavily relies on export trade (Criscuolo, 2009). During the financial crisis in 2008 and 2009, the internationalisation of Chinese enterprises through OFDI increased significantly which was mentioned in section 4.1.

The above strategy was made under the assumption of successful knowledge transfer, particularly by the channel of reverse transfer. Gupta and Govindarajan (2000) mentioned the primary reason why MNCs exist is because of their ability to transfer and exploit knowledge more effectively and efficiently in the intra-corporate context than through external market mechanisms. Reverse knowledge transfer describes the knowledge transfer from foreign subsidiaries to a local headquarter. It has been found there is knowledge flow from a MNE's foreign based R&D facilities to its home country (Criscuolo, 2009), and the degree of home country embeddedness, the engagement in asset-augmenting R&D activities, and the existence of a technological gap between the host and home countries determine the occurrence of the reverse technology transfer. Buckley et al. (2003) mentioned that the effectiveness of knowledge transfer is predetermined by entry strategy and the condition under which it is made, which is highly relevant to the motivation. Thus, a study that clearly identifies the motivation of Chinese OFDI is critical, particularly the motivation of strategic asset seeking.

After the crisis, China kept pace with other emerging countries through continued acquisition of foreign companies. One of the explanations of rapid growth during and after the financial crisis is the deregulation of the OFDI policy; the Chinese government relaxed several finance restrictions and offered benefits to encourage OFDI from private enterprises, particularly firms in high tech industries.

However, the strong growth of Chinese OFDI challenged the explanatory power of conventional theory FDI, which explains that firms investing overseas leverage certain firm-specific advantages (FSAs) during the internationalisation process. Chinese enterprises therefore are likely to become knowledge seekers in order to gain basic knowledge and technology through internationalisation to improve the international competitiveness of domestic companies (Buckley et al, 2008). Meanwhile, the rationale for deregulation of the OFDI policy was to accelerate the upgrading of the country's economic structure during the crisis, and the government aimed to guide Chinese enterprises as well as the economy while entering into the investment-driven stage from the factor driven stage along the national competitive development process (Porter, 1990; p.543).

A review of the literature reveals that very few studies have investigated Chinese strategic asset motivated OFDI. This paper aims to fill the current knowledge gap by identifying the determinants of Chinese strategic asset motivated OFDI and examining the impact of the Chinese government policy when Chinese enterprises invest in 34 OECD countries for the period 2003 to 2011. This chapter is organised as follows: section 5.2 provides further discussion on the motivations of Chinese OFDI, section 5.3 focuses on hypotheses and research design, section 5.4 explains the analysis of determinants of Chinese OFDI, section 5.5 has an analysis and discussion of the findings, and section 5.6 draws the conclusion based on the empirical findings.

5.2 Investigating Motivations of Chinese OFDI

The literature review of Chinese OFDI in Chapter 2 indicated that most Chinese MNEs look for new market opportunities and natural resources in the early stage before moving on to strategic asset seeking. However, no concrete conclusion regarding Chinese OFDI motivation can be drawn as there are a limited number of empirical studies that have evaluated the determinants of Chinese OFDI (Liu et al., 2005, Buckley et al., 2007, Kang, 2009, Cheung and Qian, 2009, Alon, 2010, Kolstad and Wiig, 2012, Zhang and Daly, 2011, Cheng and Ma, 2007, Voss, 2011, Ramasamy et al., 2012, Jing-Lin and Guney, 2009, Amighini et al., 2011).

Researchers have selected different criteria to identify the different determinants of Chinese OFDI. Three common criteria have often been selected: first, the location of Chinese OFDI such as OCED countries or non-OECD countries; second, the ownership of Chinese MNEs, i.e. private owned or state owned; third, the classification of the Chinese OFDI by the investment time period. Among these studies, Buckley et al. (2007) conducted the most comprehensive study because they selected the location and time period of Chinese OFDI to evaluate the differences. Thus, their model has become a classic in this field. Based on their findings, they confirmed that market seeking and resource seeking were two motivations of Chinese OFDI.

However, the results of empirical studies that identify the determinants of Chinese OFDI do not draw consistent conclusions. In general, market seeking and resource seeking Chinese OFDI are evident; however, a few studies have found efficiency seeking and strategic asset seeking Chinese OFDI. These mixed results may be caused by the selection of proxy variables and the selection of data. Further research is needed.

Furthermore, the empirical results of these studies do not match with the findings of qualitative studies. As mentioned in Chapter 2, several qualitative studies were conducted to evaluate the motivation of Chinese OFDI. In general, these studies found that Chinese firms have high strategic asset seeking and market seeking-based

motivation (Child and Rodrigues, 2005, Liu and Buck, 2009, Deng, 2007, Wu and Ding, 2009, Di Minin et al., 2012). The inconsistent results in the studies show the need for further investigation as well.

From the perspective of strategic asset seeking OFDI, researchers have recently become aware of the essential role of strategic asset motivation in Chinese OFDI. Three studies that evaluated strategic asset seeking FDI specifically were conducted by Zhou and Schuller (2009), Sutherland (2010) and Liu and Scott-Kennel (2011).

Zhou and Schuller (2009) studied Chinese M&A activities by using the Dealogic investment database, which is a major source of M&A data in the investment banking industry. They found 1) 55 percent of Chinese M&A activities are conducted in developed countries, 2) M&A activities are concentrated in the mining (65 percent) and manufacturing sectors (25 percent), and 3) the growth of OFDI had not been as rapid as expected after considering the issue of round-tripping investment as the authors ignored investments in tax havens and off-shore financial centres. However, overlooking the investments in tax havens and off-shore financial centres unquestionably underestimates the impact of Chinese OFDI. Empirical studies conducted in these countries show that MNEs perform sales related activities and look for new market

opportunities. Therefore, OFDI in tax havens and off-shore financial centres is not necessarily harmful (Sutherland, 2010).

Sutherland (2010) investigated the role of China's big business groups in strategic asset seeking OFDI. He defined big business groups as companies that received a variety of special policies and were owned, or directly overseen, by the State Council. According to the author, the primary objective of these companies was to gain internationally competitive advantages to support the integration of China into the global economy. Given that these groups had exclusive access and ownership advantage, the author expected that the big business groups would take a more essential role on strategic asset seeking compared with other state-owned firms. However, this was not the reality and he found that these big business groups facilitated Chinese trade instead of acquiring strategic assets.

Liu and Scott-Kennel (2011) collected primary data from 58 Chinese MNEs and identified the OFDI motivation of state-owned and private firms. They found that Chinese OFDI is motivated by asset seeking and market seeking. Strategic assets are the most important motivation of state-owned firms, but relational assets are slightly more important for private firms. Also, technological capability and previous market experience in the host country are prerequisites for making OFDI decisions.

All three empirical studies mentioned above are firm level studies. Two of them only focus on a small sample size of firms, namely big business groups that normally are state-owned enterprises. Furthermore, the findings of strategic asset motivation were not established as Sutherland (2010) did not successfully find significant results. Nevertheless, the findings of the above studies are important even though the results do not establish an overall picture of Chinese OFDI. Thus, an empirical study of strategic asset seeking Chinese OFDI at an aggregate level is necessary.

5.3 Hypotheses and Research Design of Strategic Asset Seeking Motivation

The main objective of this study is to identify the determinants of strategic asset seeking motivation and evaluate the impact of government policies on the level of Chinese overseas investment since 2003. Learning from previous studies, it is difficult to collect systematic data from primary research because the response rate is relatively low without support from a relevant authority. Thus, secondary data becomes preferable and is used in this study.

Hypothesis design

The model in this study is modified from the classical model developed by Buckley et al. (2007), and amendments are made according to the latest developments of Chinese OFDI and institutional environments. The major modifications include a change of

independent variables, particularly for variables related to capturing strategic asset motivation and institutional environment. In the hypothesis design, several hypotheses are set to test different motivations of Chinese OFDI in OECD countries.

Strategic asset seeking

The relationship between Chinese OFDI and the strategic asset level of host countries is one of the main focuses of this study. Dunning et al. (2008), Luo and Tung (2007) and Wu and Ding (2009) described strategic asset seekers as those that acquire marketing and technological assets of foreign corporations in order to sustain and advance their global competitiveness. The countries or firms with well-known brands or marketing assets, as well as high technology capability are key targets of Chinese OFDI under the guidance of the Chinese government. Chinese OFDI, therefore, increases their investments in those countries, such as OECD countries, with high marketing and technology input and output.

In order to evaluate the motivation for marketing asset seeking of Chinese enterprises, the total annual advertising expenditure of the host country is used for evaluation. From a technological asset perspective, three additional variables which measure a host countries' technology capability are added for evaluating the motive of strategic asset seeking compared with the model of Buckley et al. (2007). R&D expenditures (R&D),

mean of schooling years (MSCH) and royalties and licence fees (ROYA), together with patents, are the variables that measure technological capacity (Dunning, 1992). Durán and Ubeda (2001) considered these factors in their new edition of the investment development path, and the empirical results showed that they had significant and positive effects on economic development. In this study, these four variables measure the technological development in host countries, together with annual advertising expenditure, which are strong indicators to consider when Chinese enterprises seek overseas strategic assets.

Hypothesis 5.1: Chinese OFDI is positively associated with total annual advertising expenditures of the host country.

Hypothesis 5.2: Chinese OFDI is positively associated with total annual patent registrations of the host country.

Hypothesis 5.3: Chinese OFDI is positively associated with total royalties and license payment receipts in the host country.

Hypothesis 5.4: Chinese OFDI is positively associated with total annual R&D investments of the host country.

Hypothesis 5.5: Chinese OFDI is positively associated with the mean years of schooling in the host country.

Market seeking

Market seeking is the second most common motivation behind Chinese OFDI as confirmed by previous empirical studies (Alon, 2010, Buckley et al., 2007, Kang, 2009, Fung et al., 2002, Fung et al., 2003, Zhang and Daly, 2011). GDP growth (GDPG) and population (POP), which measure market potential and market size are adopted as a proxy for market seeking motivation. Other variables such as GDP of host country (GDP) and GDP per capita of host country (GDPP) used in previous studies are omitted because of a concern with collinearity. Both measures are expected to have positive relationships with Chinese OFDI.

Hypothesis 5.6: Chinese OFDI is positively associated with market growth of the host country.

Hypothesis 5.7: Chinese OFDI is positively associated with population size of the host country.

Resource seeking

Resource seeking motivation is another motivation for Chinese OFDI. Agriculture production, together with ore and metal endowments are adopted to represent resource seeking. The Chinese government not only seeks ore and metal in its resource seeking investments, but also looks for timber, fishery and agriculture products. A positive association between the endowment of natural resources of host country and Chinese OFDI is expected.

Hypothesis 5.8: Chinese OFDI is positively associated with the agricultural resources endowment of the host country.

Hypothesis 5.9: Chinese OFDI is positively associated with the mineral resources endowment of the host country.

Efficiency seeking

Furthermore, efficiency seeking which was overlooked in Buckley's model is taken into account, and the real average annual wage (WAG) is selected as the measurement. MNEs with efficiency seeking motivation look for a place with lower labour costs, thus a negative association between the cost of the host country and Chinese OFDI is expected.

Hypothesis 5.10: Chinese OFDI is associated negatively with the average annual wage of the host country.

Other variables

Moreover, a political risk variable (POLI) is further extended as compared with the model of Buckley et al. (2007). Political risk is generally associated with low values of FDI, and it is expected that Chinese OFDI seeks political stability in order to achieve better alignment between their needs and the institutional environment. The institutional environment is evaluated by political stability (PPS) and the corruption level (COR), thus hypotheses 11 and 12 are designed.

Hypothesis 5.11: Chinese OFDI is positively associated with political stability of the host country.

Hypothesis 5.12: Chinese OFDI is positively associated with a low corruption level of the host country.

Control variables which had insignificant coefficients in the results of Buckley et al. (2007) are omitted in this modified model. Instead, openness (OPEN) which is the percentage of sum of export and import on GDP is added. A close trading relationship

between host and home countries encourages FDI activities as well; exporting is an indicator of market demand in the host country, which enhances market seeking motivation. On the other hand, importing is an indicator of resource transfer from host countries. Thus, the openness of the country has a positive effect on Chinese OFDI. Finally, the unemployment rate (UNEM) which is an indicator of the macro environment is added as it aims to control for the impact of the 2008 financial crisis on OFDI. It is expected that OFDI is positively associated with openness and unemployment of the host country.

Two policy dummy variables are also included. The first dummy variable (D1) is to evaluate the impact of "Encouraging and Supporting Go-Global of Private Owned Enterprises Regulation" which was proposed in 2006; this was the first regulation to allow privately owned firms to invest abroad. This new law should have stimulated the OFDI activities of private enterprises. The second dummy variable (D2) is to measure the impact of publishing "Catalogue of Countries and Industries for Guiding Investment Overseas". This catalogue was distributed by the Ministry of Commerce and the Ministry of Foreign Affairs and was published in 2004, 2005 and 2007. The Chinese government provides guidance to local firms and encourages them to invest in specific industries in foreign countries, which mostly are at a competitive disadvantage in China. Time and cross section dummy variables are set according to Table 5.1.

Table 5.1: Catalogue listing of countries and industries for guiding investment overseas

OECD Country	Focus Area and Industry	Date of listing
Australia	R&D	2004
United Kingdom	R&D	2004
France	R&D	2004
United State	R&D	2004
South Korea	R&D	2004
Germany	R&D	2004
New Zealand	R&D	2004
Japan	R&D	2004
Sweden	R&D	2004
Austria	R&D	2005
Israel	Biotechnology	2005
Belgium	Technical Development	2007
Finland	Technical Development	2007
Denmark	Ecological-technology	2007
Norway	Technical Development	2007

The model and data

In this empirical study, panel data is adopted. In the cross section data, 34 OECD countries are included. OECD countries which have a high technological level are targets for M&A of Chinese firms and 15 countries are listed on the "Catalogue of Countries and Industries for Guiding Investment Overseas". Limited by data availability and the inconsistent data collection standards of the Chinese authority before 2003, thus the study period is from 2003 to 2011, and the sample of host countries is 34 OECD countries.

Though it would be more beneficial if the study were conducted at the industrial sector level, as the empirical results would be more specific, and the results would be more practical for both governments in China and OECD countries; unfortunately, official FDI data by sector is not available in China nor OECD countries. In China official statistics, OFDI in host countries and OFDI by sector are provided, but OFDI by sector in each host countries is not available. Furthermore, the classification of sector under the "Catalogue of Countries and Industries for Guiding Investment Overseas" is not aligned with the classification of international standards, which might create unnecessary biases.

For the independent variables, annual advertising expenses per GDP is used as the measurement unit for marketing asset. Meanwhile, the measurement unit of human capital, research and development, patent and royalty, and licenses are adopted to evaluate the determinants of technological asset seeking motivation of Chinese OFDI. GDP growth measures market growth, and population which measures market size are selected to evaluate the market seeking motivation of Chinese OFDI. Annual wage is chosen to measure for efficiency seeking motivation. Agricultural raw materials export as well as ores and metals export are adopted for examining the motivation of natural resource seeking of Chinese OFDI. Finally, political stability and corruption index are tested to identify the impact of the institutional environment. Data of independent

variables are recalculated from their nominal value and transformed to real value terms. All details of the independent variables, data sources and measurement units of each variable are described in Table 5.2, and a statistical summary of measurement units are shown in Table 5.3.

Table 5.2: Variables and measurement units of the empirical study

Motivation	Variable	Measurement Unit	Short Form	Expect Sign	Source of Data
Marketing Asset Seeking	Marketing Asset	Annual Advertising Expenses/ GDP	ADV (-1)	+	Euromonitor International
Technological Asset Seeking	Patent	Patent/ population	PATNPOP	+	World Intellectual Property Organization-IP Statistics Data Centre
	Royalty & License	Royalty & License Receipt / GDP	ROY	+	World Bank Development Indicator
	R&D	R&D/ GDP	RD (-1)	+	World Bank Development Indicator
	Human Capital	Mean of school year	MSCH	+	United Nations Development Programme International Human Development Indicators
Market Seeking	Market Growth	GDP Growth	RGDPG	+	World Bank Development Indicator
	Market Size	Population	POP	+	World Bank Development Indicator
Efficiency Seeking	Labour Cost	Annual wage	WAG	-	OECD Database
Resource Seeking	Agricultural endowment	Export of Agriculture Product	AEX	+	World Bank Development Indicator
	Metal endowment	Export of Metal Product	MEX	+	World Bank Development Indicator

Motivation	**Variable**	**Measurement Unit**	**Short Form**	**Expect Sign**	**Source of Data**
Institutional Environment	Political Stability	Political Stability Index	PPS	+	Worldwide Governance Indicator http://info.worldbank.org/governance/wgi/index.asp
	Corruption	Corruption Index	COR	+	Transparency International http://cpi.transparency.org
Control	Openness	Open Trade	OPENGDP	+	World Bank Development Indicator
	Control of crisis	Unemployment	UNEM	+/-	Euromonitor International from International Labour Organisation (ILO)/ national statistics/OECD
Dummy	Dummy for guidance of Catalogue of Countries and Industries for Guiding Investment Overseas on Chinese OFDI		PolicyD	+	
	Dummy for Encouraging and Supporting Go-Global of Private Owned Enterprises Regulation which was proposed in 2006		PrivateD	+	

Table 5.3: Summary of the statistics of variables

	Strategic Asset						Market Seeking		Resource Seeking		Efficiency Seeking	Institutional Environment		Control	
	ADV	PATNPOP	ROY	RDD	RD	MSCH	RGDPG	POPM	AEX	MEX	WAG	PPS	COR	OPENGDP	UNEM
Mean	**0.008**	**0.001**	**0.003**	**0.540**	**2.017**	**10.887**	**2.061**	**36.051**	**1.818**	**4.233**	**26831.950**	**73.549**	**7.119**	**0.029**	**7.394**
Median	0.007	0.000	0.002	0.340	1.800	11.000	2.500	10.622	1.190	3.100	29492.770	76.900	7.500	0.020	7.100
Maximum	0.019	0.004	0.014	3.400	4.800	13.100	10.600	311.592	8.160	37.130	65890.380	100.000	9.700	0.203	21.600
Minimum	0.004	0.000	0.000	-1.240	0.500	7.040	-14.100	0.452	0.280	0.120	2929.956	0.800	3.400	0.004	2.500
Std. Dev.	0.002	0.001	0.003	0.981	0.986	1.204	3.271	59.394	1.527	4.710	13155.480	19.115	1.738	0.030	3.366
Observations	249	249	249	249	249	249	249	249	249	249	249	249	249	249	249

Considering the lag effect of long-term investments on OFDI decisions, advertising expenditure and R&D investments lag by one year. Thus, the equation 5.1 is more precisely designed as follows:

Equation 5.1 Regression model of testing the relationship between Chinese OFDI and the strategic asset of host countries

$$OFDIF_{c,t} = \alpha + \beta_1 ADV_{c,t-1} + \beta_2 PATENT_{c,t} + \beta_3 ROY_{c,t} + \beta_4 R\&D_{c,t-1} + \beta_5 MSCH_{c,t} + \beta_6 RGDPG_{c,t} + \beta_7 POP_{c,t} + \beta_8 AEX_{c,t} + \beta_9 MEX_{c,t} - \beta_{10} WAG_{c,t} + \beta_{11} PPS_{c,t} + \beta_{12} COR_{c,t} + \beta_{13} OPEN_{c,t} + \beta_{14} UNEM_{c,t} + \beta_{15} PolicyD_{c,t} + \beta_{16} PrivateD_{c,t} + e_{c,}$$

Where c= 1,…, 34 represents the host country c and t = 2003, …, 2011 indicates the time period.

Raw data on the Chinese economy are obtained from China Industrial Economic Statistics Yearbook, China Commerce Yearbook and the Annual Statistical Bulletin of China's Outward Foreign Direct Investment. All of the above are managed and governed by the National Bureau of Statistics of China. Meanwhile, data of host countries are collected from the World Bank Development Indicators, the United Nations database, the OECD database, official statistics authorities of host countries and other independent information publishers such as Euromonitor International.

However, a data issue remains an obstacle for conducting empirical research in China. China has only published its OFDI data in a format that is consistent with OCED and IMF standards since 2003 (Cheung and Qian, 2009, OECD, 2008). OECD (2008) claims that all OFDI data published by the Chinese government before 2003 were seriously underestimated; the statistics do not report illegal, non-approved capital transfers, cover further investments made after the first approval and only equity investments are classified as OFDI.

The data used in this empirical study are in real value terms, which means removing the inflation from their nominal value terms and the influence of exchange rate; all figures are transformed into constant prices (base year 2003) and constant exchange rate (base year 2003). For instance, if the dependent variable is OFDI flows, OFDI flows in millions are selected as the explanatory variable. Data of OFDI flows in 34 host countries are collected from Statistical Bulletin of China's Outward Foreign Direct Investment edited by Ministry of Commerce (MOFCOM), National Bureau of Statistics (NBSC) and State Administration of Foreign Exchange (SAFE).

Obtaining OFDI data in real value terms means removing the inflation from their nominal value terms. Also, the influence of exchange rate is removed from the data.

Annual data of OFDI flows in host countries in real value terms are then calculated by applying the following equation 5.2:

Equation 5.2 Formula of calculating the real value terms of OFDI flows

Real value of OFDI flows = (Nominal value of OFDI flows / GDP deflator of China) x Exchange Rate in 2003 / Exchange Rate in sample year X 100

The GDP deflator of China and the exchange rate of currency between China and the host country in the above formula are collected from the data of the World Bank and International Monetary Fund. Furthermore, the influence of the market size of host countries is also removed; the absolute value of real OFDI flows cannot measure the significant level of Chinese OFDI in each host country, instead relative value is defined, and, therefore, the measurement unit of OFDI flows is the proportion of real OFDI flows over real GDP.

5.4 Analysis of Determinants of Chinese OFDI

The tests for hypotheses in equation 5.1 are carried out for the coefficients of the OLS regression function. All regressions are fixed effect models after conducting the regression tests in both fixed effect model and random effect model. It is found that the

result of the fixed effect model is more significant. Moreover, the result of Hausman test suggests that the fixed effect model is preferred over the random effect model as the result indicated that the estimated cross-section random effects variance is zero.

Four regression tests are conducted. Regression 5.1 tests all variables without including dummy variables in the model, while dummy for guidance of Catalogue of Countries and Industries for Guiding Investment Overseas on Chinese OFDI is added in regression 5.2. Regressions 5.1 and 5.2 are, therefore, tested under the time and country fixed effect. In regression 5.3, dummy for Encouraging and Supporting Go-Global of Private Owned Enterprises Regulation which was proposed in 2006 is added, while two policy variables are added in regression 5.4; thus, regression 5.3 and 5.4 are tested under the country fixed effect. Lastly, regression 5.5 is tested with all insignificant variables in regression tests 5.1 to 5.4 removed in the function, and it aims to test the robustness of result and sensitivity of model specification.

From a model fitness perspective, all correlation coefficients among the variables are far less than 0.8 which is the indicator of determining a problem of serious pairwise collinearity; thus, there are no general data problems. Results of correlation coefficient are shown in Appendix 5.1.

The value of R-Square in the model is used to check the percentage level of the variation of OFDI that can be explained by the stated explanatory variables. The model in regression 5.1 has R-Square of 0.570, which implies that 57.0 percent of the variation in OFDI can be explained by the stated explanatory variables. Meanwhile, the D-W statistics test result of 1.665 indicates that there are no serial correlation issues in the error term.

Finally, the White heteroskedasticity test was conducted to test the heteroskedasticity of the residuals. The null hypotheses of homoskedasticity of residuals cannot be rejected; the test statistics amount NR2 is 126.53 in the regression corresponding to a probability of 0.995, which indicates there are no heteroskedasticity problems in both results.

The regression findings of equation 5.1 is summarised in Table 5.4, both regression tests 5.1 to 5.4 show that Chinese enterprises have a strong incentive for technological asset seeking, market seeking, resource seeking and efficiency seeking when they invest in OECD countries. Among the four regression tests, missing data on variables for wage and royalty and license receipts existed in five countries, including Chile, Iceland, Mexico, New Zealand and Turkey, which are omitted in the regression tests.

Table 5.4: Empirical results of determinants on strategic asset seeking OFDI with R&D investment

	Reg 5.1	Reg 5.2	Reg 5.3	Reg 5.4	Reg 5.5
ADV (-1)	-9771.338	-4928.214	-51270.000	-48125.710	
	-0.237	-0.119	-1.277	-1.19	
PATNPOP	533135.4 ***	525126.6 ***	518512.6 ***	517083.0 ***	539527.1 ***
	2.853	2.805	2.776	2.764	3.145
RD (-1)	-331.591 **	-328.715 **	-141.871	-138.386	-371.589 ***
	-1.778	-1.762	-0.771	-0.751	-2.341
ROY	11219.64	10813.73	-5930.263	-6155.873	
	0.558	0.538	-0.389	-0.403	
Msch	11.079	-4.16	104.686	9.419	
	0.066	-0.025	0.663	0.628	
RGDPG	22.463 *	23.155 **	-9.701	-9.316	20.279 *
	1.603	1.648	-1.006	-0.963	1.574
POP	42.887 ***	42.517 ***	41.669 ***	41.676 ***	44.000 ***
	3.091	3.061	2.984	2.98	3.49
WAG	-0.02 *	-0.019 *	-0.004	-0.004	-0.0185 *
	-1.526	-1.48	-0.453	-0.419	-1.5132
AEX	95.502 *	92.537 *	134.891 **	132.856 **	100.557 *
	1.356	1.312	1.967	1.933	1.551
MEX	125.274 ***	123.753 ***	108.623 ***	107.734 ***	123.243 ***
	5.724	5.635	5.041	4.984	5.989
OPENGDP	-2598.625	-2675.773	-1673.691	-1678.129	
	-1.118	-1.15	-0.729	-0.73	
UNEM	4.549	3.008	3.941	2.897	3.4382
	0.283	0.186	0.259	0.189	0.263
PPS	0.854	0.834	0.619	0.631	
	0.203	0.198	0.145	0.148	
COR	51.925	33.884	44.767	31.254	
	0.608	0.386	0.512	0.349	
POLICYD		-134.282		-107.154	
		-0.899		-0.705	
PRIVATD			51.993	66.380	
			0.656	0.810	

	Reg 5.1	Reg 5.2	Reg 5.3	Reg 5.4	Reg 5.5
Ad R-square	0.446	0.446	0.417	0.416	0.465
DW Test	1.664	1.667	1.665	1.668	1.669
Observation	222	222	222	222	231

Figures in parentheses are t statistics (one-tailed test); *, **, and *** denote significance at the 10%, 5% and 1% levels respectively.

In general, it is found that patent (PATN), population (POP), annual wage (WAG), export of agricultural product (AEX) and export of metal products (MEX) are all significant and correctly signed in the four regressions. These findings support hypotheses 5.2, 5.7, 5.8, 5.9 and 5.10, which indicate that Chinese enterprises investing in OECD countries seek technological assets, potential markets and natural resources.

Patent, which is the outcome of technological development, has a positive and significant influence on Chinese OFDI; this is a key indicator to show Chinese enterprises are looking for a technological outcome in OECD countries. A positive and significant result on population suggests that market size is a favourable factor to attract Chinese OFDI; a one million increase of host country population stimulates USD 42.887 million OFDI flows based on the result in regression 5.1. Other than that, Chinese enterprises are also attracted by the rich agricultural and metal resource endowment of host countries. Furthermore, no significant results are found for annual advertising expenses, mean years of schooling, royalty and license fees receipts,

political stability, corruption, and the control variables in the four regression tests. Thus, marketing asset seeking activity of Chinese enterprises is not proven and institution environment does not impact on the OFDI decisions of Chinese enterprises.

In regression tests 5.1 and 5.2, the model is tested under time and country fixed effect. In the market seeking perspective, other than obtaining significant evidence of market size, market growth also shows a positive and significant impact on Chinese OFDI given that a one percent increase in real GDP growth arouses USD 22.463 million OFDI flows in a host country. Thus, market size and market growth are two favourable factors in a host country to attract market seeking Chinese OFDI. Moreover, average annual wage has a negative and significant impact on Chinese OFDI; thus, market seeking and efficiency seeking motivations are valid, and support hypotheses 5.6 and 5.10.

In contrast, R&D investment (R&D) is found to be significant but negative which is contrary to the expectation in hypothesis 5.4. The result indicates that Chinese enterprises invest USD 331.59 million less one year after a host country has one more unit increase of R&D to GDP ratio. In order to evaluate the encouragement policy, a country dummy variable (D2) which evaluates the impact of publishing Catalogue of Countries and Industries for Guiding Investment Overseas on Chinese OFDI in a specific host country is added in regression 5.2; the coefficient of the dummy variable

is negative but insignificant. This suggests that there is no evidence showing guidance of Catalogue of Countries and Industries for Guiding Investment Overseas has significant impact on Chinese OFDI.

In regression tests 5.3 and 5.4, the model is tested under the country fixed effect. Coefficient result of patent (PATNPOP), population (POP), export of agricultural products (AEX) and export of ore and metal products (MEX) are aligned with the findings in regression tests 5.1 and 5.2; positive and significant coefficients are found. In comparison with the regression tests 5.1 and 5.2, no significant results on market growth, annual wages and R&D are found.

In order to evaluate the effectiveness of government policy, dummy variables are added. In regression 5.3, hypotheses of all dependent variables are tested with time dummy (D1) which evaluates the impact of Encouraging and Supporting Go-Global of Private Owned Enterprises Regulation proposed in 2006. In regression 5.4, both policy dummy variables are added; however, no significant impact of both dummy variables on Chinese OFDI is found. D1 has a positive but insignificant coefficient, while D2 has a negative and insignificant coefficient. Both dummy variables are not statistically significant to provide addition explanation of Chinese OFDI in OECD countries.

Empirical results of the revised model

In the regression analysis, a mixed result is found in strategic asset seeking motivation; patent is found to be a favourable factor to attract Chinese OFDI, while R&D investment in the host country is a factor which discourages the investment from Chinese enterprises. In order to explore the rationale of the mixed result in the strategic asset seeking motivation, the measurement unit for R&D has been revised.

Instead of measuring the technological capability based on the absolute ratio of R&D to GDP, the difference of R&D to GDP ratio between China and the host countries is adopted. This relative level measures the difference of investment in R&D among host countries, which is a commonly used indicator for measuring the absorptive capacity of countries, and it also reflects the technology gap and absorptive capability of technological transfer (Crespo and Fontoura, 2007). In this model, it is expected that the R&D is negatively associated with Chinese OFDI in the host country.

Table 5.5: Empirical results of the determinants of strategic asset seeking OFDI with technological capability measurement

	Reg 5.6	Reg 5.7	Reg 5.8	Reg 5.9	Reg 5.10
ADV (-1)	-7216.487	-2740.553	-37210.370	-33607.67	
	-0.173	-0.065	-0.914	-0.819	
PATNPOP	517115 ***	509787.4 ***	477521.6 **	475539.7 **	407914.2 ***
	2.754	2.710	2.554	2.540	3.157
RDD	-220.631 *	-213.2275	-256.9799 **	-260.111 **	-291.892 ***
	-1.303	-1.256	-1.701	-1.719	-2.737
ROY	8864.792	8335.691	-1958.659	-2077.097	
	0.440	0.413	-0.1278	-0.135	
Msch	4.401	-10.239	57.314	51.385	
	0.026	-0.007	0.363	0.325	
RGDPG	22.278 *	22.881 *	-7.251	-6.799	-6.603
	1.577	1.616	-0.748	-0.700	-0.891
POP	41.809 ***	41.482 ***	39.242 ***	39.323 ***	34.997 ***
	2.998	2.971	2.822	2.818	3.555
WAG	-0.021 *	-0.021 *	-0.008	-0.007	-0.003
	-1.594	-1.543	-0.797	-0.761	-0.364
AEX	78.546	76.046	107.540 *	105.232 *	98.818 **
	1.109	1.072	1.564	1.528	1.907
MEX	119.016 ***	117.541 ***	105.660 ***	104.791 ***	97.456 ***
	5.536	5.446	5.052	4.998	6.641
OPENGDP	-2809.749	-2906.498	-1632.430	-1612.841	
	-1.192	-1.231	-0.751	-0.741	
UNEM	3.564	1.976	3.135	2.093	5.346
	0.220	0.121	0.212	0.141	0.523
PPS	1.052	1.046	0.158	0.152	
	0.249	0.247	0.037	0.036	
COR	41.412	23.918	39.890	25.372	
	0.485	0.272	0.463	0.287	
POLICYD		-129.225		-117.133	
		-0.86		-0.776	
PRIVATED			27.300	43.421	
			0.3619	0.554	

	Reg 5.6	Reg 5.7	Reg 5.8	Reg 5.9	Reg 5.10
Ad R-square	0.442	0.441	0.420	0.418	0.438
DW Test	1.652	1.656	1.668	1.673	1.556
Observation	222	222	222	222	259

Figures in parentheses are t statistics (one-tailed test); *, **, and *** denote significance at the 10%, 5% and 1% levels respectively.

Besides this modification, the design of the model and all variables for the empirical test remain the same. Regressions 5.6 and 5.7 are tested under time and country fixed effect, while regressions 5.8 and 5.9 are tested under country fixed effect. Lastly, regression 5.10 is added, and all insignificant variables are removed in the function in order to verify the robustness of result and sensitivity of model specification.

The results of the five regression tests are shown in Table 5.5. Generally, findings of regressions 5.6 and 5.7 under time and country fixed effect are the same as regressions 5.1 and 5.2; thus, a mixed result is found in the strategic asset seeking motivation and coefficient of R&D investment is negative and significant. Other than that, motivation of market seeking, efficiency seeking and resource seeking are found to be positive except agriculture endowment which is not significant.

Regressions 5.8 and 5.9 are tested under the country fixed effect, and most of the coefficient results are similar to regressions 5.3 and 5.4. Firstly, patent is positively significant. Secondly, population, which is the measurement unit of market size, is also

significant. Finally, natural resource endowments of a host country also have positive and significant impact on Chinese OFDI. Besides, the variable of the difference in R&D investment between China and the host country is significant but with negative coefficient, which indicates that the higher the technological gap, the less Chinese enterprises invest into the host country. For instance, the result of regression 5.8 shows that one unit increase in the gap of R&D to GDP ratio, Chinese enterprises would invest USD 257 million less in a specific technologically advanced host country in the next year.

5.5 Analysis and Discussion

Two key research questions are designed in this study, the first one is the determinants of strategic asset seeking of Chinese OFDI and the second one is the impact of government policies on the strategic asset seeking of Chinese OFDI. In sum, the findings with a mixed result on strategic asset seeking cannot draw a conclusion for the first question, but the results generate more interesting discussion. In addition, the results do not find statistical significant evidence to identify the impact of government on Chinese OFDI in OECD countries.

Analysis of strategic asset seeking motivation in Chinese OFDI

With regard to strategic asset seeking motivation, previous studies have only been concerned with technological asset seeking, which is misleading and incomplete. As highlighted by Dunning et al. (2008) and Wu and Ding (2009), Chinese OFDI involves more marketing and knowledge related activities in order to capture greater marketing assets and technology. In order to obtain a full picture of strategic asset seeking motivation, both marketing assets and technological assets are tested in the model.

In the perspective of marketing asset seeking, the result shows the proxy of advertising expense has no significant impact on Chinese OFDI, and Chinese enterprises investing in OECD and looking for marketing assets is not statistically valid. Similarly, insignificant results were found in previous studies conducted in Japan, India and South Korea (Kogut and Chang, 1991, Drake and Caves, 1992, Chang, 1995, Pradhan, 2004).

In the perspective of technological asset seeking motivation, mixed results in regression tests 5.1 and 5.2 are found respectively. On the one hand, the number of patents per person in a host country has a positive and significant impact on the Chinese OFDI in OECD countries. On the other hand, R&D has a negative coefficient to Chinese OFDI; this result contradicts the findings of Amighini et al. (2011).

The opposite signs of the coefficients in R&D and patent provide a more comprehensive picture of technological asset seeking motivation of Chinese OFDI. These two variables have a different nature in technological seeking, R&D is the input of technological development, which is good for the long term technological capability of a host country, and patents are the output of technological development of previous R&D investments and become immediately available for application. The positive coefficient of patent and negative coefficient of R&D on Chinese OFDI indicate that the focus of Chinese enterprises is on technological output instead of technological capability of the host country. Chinese enterprises seek to acquire technology and knowhow for immediately catching up and removing the technological gap with the OECD countries.

The coefficient of R&D (-1) in this study has an unexpected negative sign in both regression tests 5.1 and 5.2, which indicates that the investment of R&D in a host country discourages Chinese OFDI in the next year. One of the possible explanations is the host countries with high endowments in resources and large market growth have low levels of R&D investment. For instance, Chile has the highest export share of ore and metal products in the sample with the proportion of metal product exports to total exports at 58.14 percent, but it has the second lowest R&D investment in OECD which was 0.03 percent more than Mexico and its R&D investment to GDP ratio is around 0.43. Another example is Greece, which ranked fourth in the highest export portion of

ore and metal products with a percentage of 8.57; however, the R&D expenditure to GDP ratio is only 0.6. These examples indicate a negative correlation between the motivation of resource seeking and strategic asset seeking as well as marketing seeking and strategic asset seeking.

Moreover, the correlations between the mean of R&D and the mean of export of agriculture product, export of metal products, real GDP growth and population are also negative. Thus, the variables have a negative statistical relationship. Details of the correlation test results are shown in Table 5.6.

Table 5.6: Correlation tests between R&D and other variables

Variable	Result
Correlation between R&D and export of agriculture product	-0.06
Correlation between R&D and export of metal products	-0.16
Correlation between R&D and real GDP growth	-0.15

A negative correlation indicates that a country has a negative relationship between R&D investment and export of agriculture products, export of metal products and real GDP growth. In other words, strategic asset seeking motivation and resource seeking or market seeking motivation have a low chance to co-exist in the same host country.

In the revised model, a relative value of R&D to GDP ratio which measures the technological gap among countries is used. The finding indicates that the larger the technological gap between China and a host country, Chinese enterprises are less willing

to invest. In other words, Chinese enterprises tend to invest in a host country with similar or lower technological capability. Thus, the negative coefficient indicates that Chinese enterprises are taking the "catch up" approach; the investment is only made when Chinese enterprises ensure the acquired technology can be absorbed and transferred to the parent companies. Comparing the opposite results between the technological level and technological gap, it is found that Chinese MNEs are quite rational, they are not looking for the highest technological level in the world; instead they tend to select a proper technology outcome which facilitates their ability to catch up.

A comparison of the results in the original model and revised model indicates the importance of selecting the right measurement unit in an empirical study which is mentioned by Lipsey and Sjöholm (2005). Based on the comparison, the technology gap and absorptive capability of technological transfer are more important determinants of strategic asset seeking investment and have positive influence to Chinese OFDI; thus, the less the technology gap, the greater is Chinese OFDI. However, the absolute R&D investment has an opposite impact on Chinese OFDI.

Other variables that evaluate technological asset seeking motivation such as royalty and licence receipts and human capital do not reveal significant findings. For human capital,

a significant result is mostly found for studies that adopted admission rate of secondary or tertiary education as a proxy (Fung et al., 2002, Fung et al., 2003, Amighini et al., 2011). However, data on admission rate in our sample is incomplete, thus the mean years of schooling which is another common way to measure output of human capital is adopted. The result shows that human capital in a host country has no impact on attracting Chinese investment.

Analysis of the role of government on Chinese OFDI

Regarding the influence of institutions on Chinese OFDI, no impact of institutional environment and government policy on Chinese OFDI was found which is contrary to the findings of Buckley et al. (2007) and Voss (2011); these authors found positive coefficient of political stability on Chinese OFDI. In our model, however, both index of political stability and corruption perception have positive but insignificant coefficients, which is consistent with the findings of Cheung and Qian (2009) and Kolstad and Wiig (2012), and the latter study also focuses on the Chinese OFDI in OECD countries.

Other than that, the two policy dummy variables also have no significant impact on Chinese OFDI, which indicates that there are no statistical impacts of Encouraging and Supporting Go-Global of Private Owned Enterprises Regulation and the Catalogue of Countries and Industries for Guiding Investment Overseas on OFDI decisions of

Chinese enterprises according to the test results in regression tests 5.2, 5.3 and 5.4. One of the possible reasons is the short period of the time series in the sample; only a four-year time series was used to evaluate the impact of these two government policies after their establishment and this short period of time does not allow slop dummies. Therefore, no evidence is found to show a leading role of the Chinese government on the internationalisation of Chinese enterprises in this study by these two policy dummies.

Findings and discussion of other motivations for Chinese OFDI

Other motivations such as market seeking and resources seeking of Chinese OFDI are found. The positive coefficient of market growth is consistent with the studies of Zhang and Daly (2011) and Alon (2010). A positive coefficient of market size is also in line with Alon (2010), Buckley et al. (2007), Cheng and Ma (2007), Kolstad and Wiig (2012) and Ramasamy et al. (2012).

The results also found that Chinese OFDI is attached to the host countries with a rich natural resource endowment; the empirical regression does not only indicate a positive impact of metal product endowment on Chinese OFDI, but also shows the same impact caused by agricultural products endowment. Metal products such as ore, iron, cooper and aluminium are commonly used in previous studies, however there is no study evaluating the role of resource seeking motivation of Chinese OFDI in OECD countries,

except the study conducted by Cheung and Qian (2009) in developed countries. In fact, several OECD countries are exporting a high proportion of ore and metal to foreign countries. For instance, 58 percent of Chile's exports are ore and metal, while metal exports take 29.50 percent in Iceland and 25 percent in Australia correspondingly.

Other than metal products, agricultural products should be considered in resource seeking motivation. The results show a positive and significant coefficient. Among the 34 OECD countries, New Zealand takes the lead with 10.65 percent of exports as agricultural products, followed by Chile, Estonia and Finland. These results help to draw a complete picture of resource seeking motivation of Chinese enterprises.

Moreover, the results of this study add significantly to our understanding of Chinese OFDI in efficiency seeking motivation. The result of a negative coefficient in average annual wage shows the importance of cost consideration in the decision of Chinese enterprises. Higher labour costs discourage the Chinese OFDI in a host country. This is the first study in OECD countries to obtain a significant result, and this aligns with the findings of Cheung and Qian (2009) in their aggregate and emerging countries studies. Lastly, this is the first empirical study in the field of Chinese OFDI to find significant evidence to support all motivations of MNEs proposed by Behrman (1972).

However, this study also has limitations. Data accessibility is still a blocking point to obtain a complete picture of this topic. There is an issue with missing data in several variables, such as wage and royalty and license receipts. Moreover, the weak explanatory power of the mixed result on strategic asset seeking motivation is another limitation; the findings show the determinants of technological asset seeking, but do not identify the rationale of the negative coefficient in R&D. This is an important issue to pursue in future research.

5.6 Conclusion

This study aims to provide an in-depth and accurate analysis of the determinants of Chinese OFDI with a particular focus on the aspect of strategic asset seeking motivation, which is a critical concept of the springboard and catch up approach of OFDI from emerging countries. A regression function is designed and hypothesis of several motivations of Chinese OFDI including strategic asset seeking, market seeking, resource seeking and efficiency seeking are tested by OLS in two models.

In the first model, four measurement units of strategic asset seeking and variables of other motivations are tested. The patent, which is one of the measurement units of technological assets, shows a positive and significant result. However, the result of

another measurement unit R&D investment shows the opposite, which indicates Chinese OFDI decreases when host countries invest more in R&D. Because of the contradicting observation, the revised model was tested.

In the second model, the R&D investment is replaced by the difference of R&D to GDP ratio between host country and China, and both patent and the difference of R&D to GDP ratio have significant results. This result indicates that the higher the difference of R&D to GDP ratio, the less Chinese OFDI is made. This supports the argument of technological asset seeking motivation of Chinese OFDI in OECD countries. Other measurement units of technological asset seeking do not have changes in the result.

These results add significantly to the understanding of Chinese OFDI on the motivation and behaviour of technological asset seeking, since we can understand clearly that Chinese enterprises are looking for a technological outcome such as patent of the host country instead of technological know-how for their practical application. Based on the results, it is learnt that Chinese enterprises are more likely to invest in a host country with a lower technological gap. Chinese enterprises might consider the internal absorptive capability of absorbing new know-how and technology in new investments. Both findings are vital and relevant to understand the M&A targets of Chinese enterprises in OECD countries.

Besides, the results in this study, in comparison with previous studies, have similar findings on market seeking motivation and resource seeking motivation. The significant roles of market size, market growth and host country metal resource endowment that attract Chinese OFDI are found. In addition, the positive and significant coefficient on agricultural resource endowment provides greater insights in the Chinese OFDI discussion. This is a good indicator for the host countries with rich agricultural resource endowment to consider their FDI policy. The significant result of efficient seeking motivation helps draw a complete picture of Chinese OFDI in OECD countries. These findings are the first empirical support for the motivations of MNEs proposed by Behrman (1972).

Appendix 5.1 Results of correlation coefficient

	ROFDIFM	ADV(-1)	MSCH	RD(-1)	ROY	RGDPG	AEX	MEX	WAG	PPS	COR	OPENGDP	POPM	UNEM	PRIVATE7D	POLICYD	PATNPOP
ROFDIFM	1	0.012918	0.106672	0.085934	0.036877	-0.0424	0.10082	0.487295	0.226708	0.041715	0.220676	0.096487	0.187771	-0.07467	0.212618	0.179334	0.078208
ADV(-1)	0.012918	1	0.228871	0.060941	-0.01482	-0.08061	-0.0019	0.223582	0.010064	-0.04149	-0.04223	0.088373	0.323227	-0.2336	-0.00866	0.188339	-0.03677
MSCH	0.106672	0.228871	1	0.305451	0.076878	0.087978	0.091156	0.127093	0.138726	0.032855	0.125107	0.247371	0.192488	-0.17998	0.12048	0.239623	0.101321
RD(-1)	0.085934	0.060941	0.305451	1	0.352921	0.01056	0.123978	-0.02858	0.487785	-0.08267	0.494385	0.269087	0.207066	-0.29704	0.094975	0.665401	0.583165
ROY	0.036877	-0.01482	0.076878	0.352921	1	-0.10318	0.110347	-0.18919	0.217352	0.093437	0.35403	0.042037	0.1814	-0.12083	-0.021	0.263013	0.233222
RGDPG	-0.0424	-0.08061	0.087978	0.01056	-0.10318	1	0.07123	0.041109	-0.15813	0.003706	-0.05032	0.131788	-0.07587	-0.14209	-0.38165	-0.02983	-0.01138
AEX	0.10082	-0.0019	0.091156	0.123978	0.110347	0.07123	1	0.234909	-0.04495	0.185111	0.269553	-0.04577	-0.06874	0.063288	-0.04169	-0.03937	-0.06707
MEX	0.487295	0.223582	0.127093	-0.02858	-0.18919	0.041109	0.234909	1	0.221069	0.118784	0.206012	0.083391	-0.07283	-0.13606	0.061696	0.149977	-0.11724
WAG	0.226708	0.010064	0.138726	0.487785	0.217352	-0.15813	-0.04495	0.221069	1	0.315484	0.747698	-0.06517	0.129152	-0.41686	0.054136	0.319859	0.557743
PPS	0.041715	-0.04149	0.032855	-0.08267	0.093437	0.003706	0.185111	0.118784	0.315484	1	0.433469	-0.05813	-0.3138	-0.35553	0.011366	-0.17075	0.22953
COR	0.220676	-0.04223	0.125107	0.494385	0.35403	-0.05032	0.269553	0.206012	0.747698	0.433469	1	-0.13401	0.035913	-0.40247	-0.03236	0.381265	0.338033
OPENGDP	0.096487	0.088373	0.247371	0.269087	0.042037	0.131788	-0.04577	0.083391	-0.06517	-0.05813	-0.13401	1	-0.00474	-0.25568	0.107981	0.188439	0.373338
POPM	0.187771	0.323227	0.192488	0.207066	0.1814	-0.07587	-0.06874	-0.07283	0.129152	-0.3138	0.035913	-0.00474	1	-0.0449	-0.0069	0.393381	0.132518
UNEM	-0.07467	-0.2336	-0.17998	-0.29704	-0.12083	-0.14209	0.063288	-0.13606	-0.41686	-0.35553	-0.40247	-0.25568	-0.0449	1	0.051217	-0.2543	-0.39698
PRIVATE7D	0.212618	-0.00866	0.12048	0.094975	-0.021	-0.38165	-0.04169	0.061696	0.054136	0.011366	-0.03236	0.107981	-0.0069	0.051217	1	0.119258	0.090349
POLICYD	0.179334	0.188339	0.239623	0.665401	0.263013	-0.02983	-0.03937	0.149977	0.319859	-0.17075	0.381265	0.188439	0.393381	-0.2543	0.119258	1	0.29364
PATNPOP	0.078208	-0.03677	0.101321	0.583165	0.233222	-0.01138	-0.06707	-0.11724	0.557743	0.22953	0.338033	0.373338	0.132518	-0.39698	0.090349	0.29364	1

Chapter 6 :

A Firm Level Study of Chinese Outward Foreign Direct Investment in Hong Kong SAR

6.1 Introduction

Since China started the implementation of the "Go Global" policy, an extensive amount of OFDI flows and stocks have accumulated in Hong Kong SAR. In 2003, around USD 1,149 million flows were invested in Hong Kong SAR, and it continuously grew to reach USD 114.2 billion in 2016. From a global perspective, the Chinese OFDI investment flows in Hong Kong SAR were 61.6 and 58.2 percent of the total Chinese OFDI flows in 2015 and 2016. It also represented 57.5 percent of total Chinese OFDI stocks in 2016. Thus, the Chinese OFDI in Hong Kong SAR is very significant and it has grown continuously over the last two decades.

Currently, there is limited understanding of Chinese enterprises investing in Hong Kong SAR, and no specific study has evaluated the Chinese OFDI in Hong Kong SAR because the literature typically stereotyped this investment as round tripping. However, stereotyping all activities into round tripping is oversimplifying the scenario, it neither explains the reason for Chinese OFDI investing in Hong Kong SAR nor describes the

needs of Chinese OFDI for conducting round tripping activities. Furthermore, it is possible to have other motivations besides round tripping, and the market seeking Chinese OFDI in Hong Kong SAR indicates that there are other motivations, which need further investigation. Thus, this study aims to investigate the motivation of Chinese OFDI in Hong Kong SAR to fill in the current knowledge gap.

Besides, Sutherland (2010) and Sutherland and Ning (2011) mentioned onward-journey investments are highly possible because Hong Kong SAR conducts a huge volume of IFDI and OFDI each year. Therefore, following their view, this study explores the phenomena of onward journey and round tripping in Hong Kong SAR.

The chapter is organised as follows. The background information of Chinese OFDI in Hong Kong SAR is described in section 6.2. The classification of Chinese MNEs in Hong Kong SAR are further described in section 6.3. Section 6.4 explains about the current research limitations of Chinese OFDI in Hong Kong SAR. The research questions and research design are explained in section 6.5 and section 6.6. The empirical results are presented from section 6.7 to section 6.9. The findings of the interview with InvestHK is summarized in 6.7. Section 6.8 illustrates the questionnaire findings of Hong Kong subsidiaries of Chinese enterprise, and section 6.9 describes interview

findings of Hong Kong subsidiaries of Chinese enterprises, and is followed by the conclusion in section 6.10.

6.2 Background Information of Chinese OFDI in Hong Kong SAR

Official Chinese OFDI statistics show that more than 50 percent of OFDI flows and stocks are accumulated in off-shore financial centres and tax-havens particularly in Hong Kong SAR. However, there are very few studies that focus on Chinese OFDI in offshore financial centres and tax-havens, and only one study by Wu and Yeo (2002) focusing on Singapore was found. In the following sections, Hong Kong SAR is introduced in the first part and the location advantage of Hong Kong SAR is further discussed in the second part.

Hong Kong SAR introduction

Hong Kong SAR is a special administration region of China, and it was established on 1 July 1997. As a colonial territory under the British government before the handover, its economic, political, social and cultural facets are different from mainland China.

Hong Kong SAR became part of China after the transfer of sovereignty from the British government on 1 July 1997. However, Hong Kong SAR is governed by a framework called “one country, two systems”. This idea was proposed by Deng Xiaoping, and the

framework is implemented through the Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China (the Basic Law).

According to the Basic Law, Hong Kong SAR has a high degree of autonomy and enjoys independent executive, legislative and judicial power, including that of final adjudication (BL Article 2); the socialist system and policies in China shall not be practised in Hong Kong SAR, and the previous capitalist system and way of life shall remain unchanged for 50 years (BL Article 5). Based on the above principles, Hong Kong SAR maintains its independence on policy making except for issues associated with national defence and foreign affairs.

Under "one country, two systems", the establishment and operation of MNEs in Hong Kong SAR is regulated by the Companies Ordinance (Ord. No. 28 of 2012), and all capital flows are monitored by the Hong Kong Monetary Authority. As Hong Kong SAR has a unique macro environment and internal system, Hong Kong SAR has established many free trade agreements, such as the Mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA), Free Trade Agreement between Hong Kong and the Member States of the European Free Trade Association, and Hong Kong-New Zealand Closer Economic Partnership Agreement. It also maintains individual membership in Asia-Pacific Economic Cooperation (APEC), World Trade Organization (WTO),

Organization of Economic Cooperation and Development (OECD), and Pacific Economic Cooperation Council (PECC).

Location advantage of Hong Kong SAR

The large amount of investment inflows indicate that Hong Kong SAR must have a certain location advantage compared to other countries/regions according to the OLI eclectic paradigm. Two surveys related to the main regional business hubs in Asia were conducted. One was conducted by the European Union Chamber of Commerce in China (European Chamber) which aimed to evaluate the business environment of Asia-Pacific headquarters, in particular Singapore, Hong Kong SAR and Shanghai (European Chamber, 2011); the second was conducted by InvestHK, which is the government department of Hong Kong SAR responsible for FDI, supporting overseas business, as well as China and Taiwanese businesses to set up and expand in Hong Kong SAR (InvestHK, 2014). Both surveys provided numerous insights on the location advantages of Hong Kong SAR for attracting FDI inflows.

In the study on Asia Pacific headquarters, the European Chamber (2011) found Singapore had the highest rank on several key selection criteria, and it was closely followed by Hong Kong SAR among the three major cities in Asia Pacific. The reports mentioned that Hong Kong SAR is an attractive location because of its favourable

business environment, such as highly transparent legal and regulatory conditions and highly competitive corporate tax levels. Moreover, the report emphasised that Hong Kong SAR continues to build on its strong position as an international financial centre; it is an attractive location when it comes to financial services.

The other study was conducted by InvestHK (2014), and it aimed to investigate overseas and mainland parent companies running regional and local operations in Hong Kong SAR. The findings on favourable factors attracting local operations in Hong Kong in this study were similar to the findings of the European Chamber (2011). InvestHK (2014) found the simple tax system and low tax rate were the most important criteria, followed by a free flow of information. These two factors were considered to be the most essential criteria affecting the choice of setting up companies in Hong Kong SAR. Geographical location ranked third, as Hong Kong SAR is well connected with key commercial and capital cities in the region.

Other than the above reports, the analysis of The Global Competitiveness Report 2011-2012 highlighted the uniqueness of Hong Kong SAR. The report ranked Hong Kong 11 out of 142 regions and classified it at an innovation driven stage of development with the best infrastructure, the second best in financial market development, and the third for goods market efficiency and labour market efficiency in the world. On the other

hand, China ranked 26 out of 142 regions, and it was classified at an efficiency driven stage of development. The different ranking for each criterion indicated the uniqueness of Hong Kong SAR, and China enterprises like to leverage the location advantage of Hong Kong SAR to expand their business.

6.3 Chinese MNEs in Hong Kong SAR

Based on Hong Kong SAR official statistics, around 1.16 million companies were registered in the Companies Register in 2013 according to the Companies Ordinance (Ord. No. 28 of 2012) under the Basic Law. Currently there are no open official statistics that record the origin of investment, which means there is no clue to identify the source of capital or the information of parent companies, except for listed companies on the Hong Kong Stock Exchange (HKEx) when they regularly publish financial reports according to regulations. In the following, the first part of this section describes the types of Chinese companies incorporated in Hong Kong SAR and the later part describes the forms of Chinese OFDI in Hong Kong SAR.

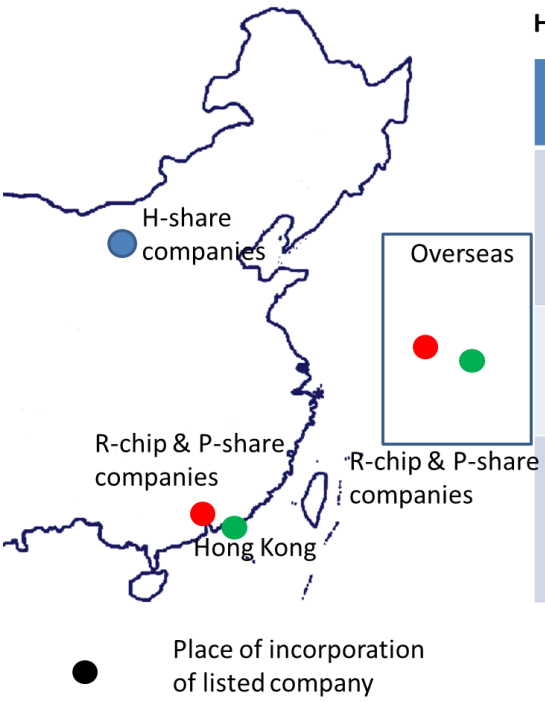
Type of Chinese companies incorporated in Hong Kong SAR

In Hong Kong SAR, the three types of listed Chinese companies are determined by two criteria. The first criterion is the type of ownership, either privately owned or state

owned. All shares of privately owned companies listed on the Hong Kong Stock Exchange are classified as P-share. The Chinese state-owned companies are further divided into two sub-categories by another criterion, i.e. location of incorporation. For the companies with a state owned background incorporated in China and listed in Hong Kong in the form of setting up a subsidiary, their shares are classified as H-shares; while the companies incorporated in Hong Kong SAR or other overseas countries and listed in HKEx are categorised as red chip companies.

According to HKEx, as of 31 December 2013, there were 905 Chinese enterprises listed on the HKEx. 222 companies were incorporated in China and have issued H-shares, 131 Chinese companies were incorporated outside China and issued red-chip shares, and there were 552 mainland Chinese private enterprises listed on the HKEx. In Figure 6.1, the three different types of listed companies in Hong Kong SAR and the number of companies up to 31 December 2013 are summarised.

Figure 6.1: Types of listed companies in Hong Kong SAR with a China background



Definition of three type of listed companies in Hong Kong SAR with China background

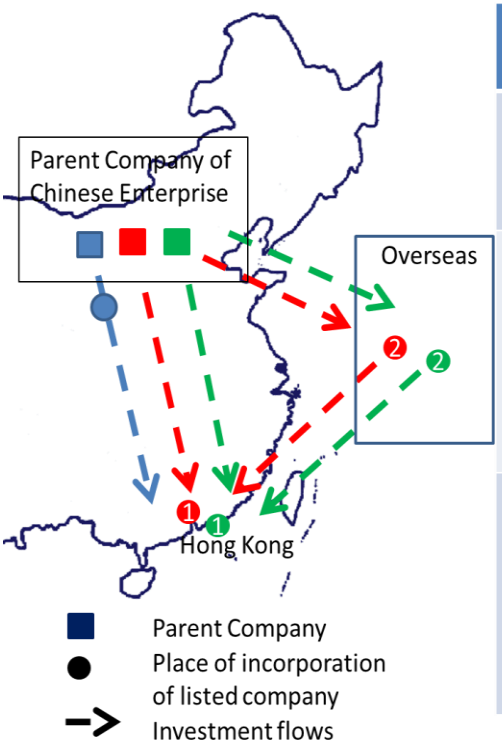
Type of company	Description of Company	No of comp. in HK (2013
H-Share company	Chinese enterprises owned by state , incorporated in China and listed in Hong Kong Stock Exchange by setting up subsidiaries	222
Red –Chip company	Chinese companies owned by state , incorporated outside China and issue red-chip shares in Hong Kong Stock Exchange	131 in total
P-Share company:	Chinese companies are privately owned, incorporated outside China and issue red-chip shares in Hong Kong Stock Exchange	552 in total

Forms of Chinese OFDI in Hong Kong SAR

The red-chip and P-share companies can be further separated by the location of incorporation as shown in Figure 6.2, which impacts the form of FDI in Hong Kong SAR. The first type is the direct approach, the head office in China sets up a red-chip subsidiary incorporated in Hong Kong SAR for listing with daily operations. Another approach is indirect, where the head office in China sets up subsidiaries in an offshore financial centre for finance and listing purposes, and then a separate subsidiary will be set up in Hong Kong SAR by offshore offices for supporting the daily operations. Based on the information provided by HKEx in 2013, 57 out of 131 subsidiaries of red chip

companies were established in Hong Kong SAR through the direct approach and the balance of 74 companies took the indirect approach.

Figure 6.2: Direct and indirect approach of Chinse OFDI in Hong Kong SAR



Forms of Chinese OFDI in Hong Kong SAR

Type of company	Description of forms of Investment in Hong Kong SAR in general cases	No of comp. in HK (2013)
H-Share company	Listed company in China set up a subsidiary in Hong Kong for local operation, mainly for investor relation management	222
Red –Chip company	1. HQ in China set up red-chip subsidiaries incorporated in HK for listing with daily operation (Direct)	57
	2. HQ in China set up subsidiaries in offshore financial center for finance and listing purpose. Another subsidiary will be set up in HK by offshore offices for the daily operation (In-direct)	74
P-Share company:	1. HQ in China set up P-share subsidiaries incorporated in HK for listing with daily operation (Direct)	18
	2. HQ in China set up subsidiaries in offshore financial center for finance and listing purpose. Another subsidiary will be set up in HK by offshore offices for the daily operation (Indirect)	534

A similar phenomena is also found in P-share companies, 534 out of 552 P-share companies took the indirect approach; head offices in China set up subsidiaries in an offshore financial centre for finance and listing purpose, while another subsidiary is set up in Hong Kong SAR by the offshore offices for the operations. The balance of 18 companies set up subsidiaries incorporated in Hong Kong SAR for listing directly.

Nowadays, the indirect approach has become popular, and some of them are classified as variable interest entity (VIE) structure; the most typical example is the listing of Tencent at HKEx. VIE refers to an entity in which the investor holds a controlling interest that is not based on the majority of voting rights according to the United States Financial Accounting Standard Board Interpretation No. 46(R). In the case of Chinese enterprises, they firstly establish an offshore holding company, normally in Bermuda, Cayman Islands or another tax haven. Then the offshore holding company applies for listing in the U.S., Singapore or Hong Kong SAR. Meanwhile, the offshore company sets up a subsidiary in China in the form of a wholly owned foreign enterprise. The new wholly owned foreign enterprise in China enters a contractual agreement with the China enterprise and the shareholders give full control to the new wholly owned foreign enterprise which enables the offshore company to consolidate their financial results (Roberts and Hall, 2011).

Once the firms obtain enough capital either through listing on the HKEx, issuing bonds, or borrowing money from local banks, they, afterward, invest back to China in order to transfer the funds via legal channels to mainland China for financing daily operations. In this scenario, the investment is round tripping.

In general, all subsidiaries set up in Hong Kong SAR are part of Chinese enterprises because their mother companies have a Chinese background. However, only the subsidiaries in Hong Kong SAR invested by H-share companies, red-chip institutions, and private enterprises in mainland China directly are classified officially as Chinese OFDI. The indirect approach investments are not classified as Chinese OFDI because most of the indirect investments are made by holding companies in offshore financial centres.

Based on the information of HKEx in 2013, there were 57 red-chip companies and 18 P-share companies that had been established by the direct approach. Compared with the listed companies owned by Chinese government entities, the numbers of target companies owned by private enterprises and incorporated in Hong Kong SAR were relatively few. The major reason for this was the OFDI restriction in China as private owned investment outside China was not encouraged before 2006 and only four companies were found in 2003. After 2006, more and more private enterprises were listed in Hong Kong SAR, and a total of 493 companies were controlled by mainland private enterprises and listed in HKEx in 2013; however, only 18 companies set up subsidiaries and were incorporated in Hong Kong SAR.

6.4 Hong Kong SAR is the Missing Piece of the Chinese OFDI puzzle

As mentioned previously, Hong Kong SAR is the largest host destination of Chinese OFDI and it has grown continuously over the last two decades. Unfortunately, Hong Kong SAR as part of Chinese OFDI is not a popular research area, previous studies have usually classified the Chinese OFDI in Hong Kong SAR as round tripping investment. In this section, round tripping of Chinese OFDI in Hong Kong SAR and the motivation of Chinese OFDI in Hong Kong SAR are further discussed.

Round tripping of Chinese OFDI in Hong Kong SAR

Currently, there is limited understanding of Chinese enterprises investing in Hong Kong SAR. While it has been stereotyped in previous literature as round tripping investment, stereotyping all activities into round tripping is oversimplifying the scenario. Xiao (2004) attempted to correct the concept and clarified that round tripping should be classified into two types according to the nature and motivation of MNEs. The first one is rent seeking round tripping, with its goal to escape regulation, and the process does not add value but facilitates the enterprises to get around the legal and administrative constraints. The second one is value seeking round tripping, and the investment aims at creating value to enhance the competitiveness of the MNE.

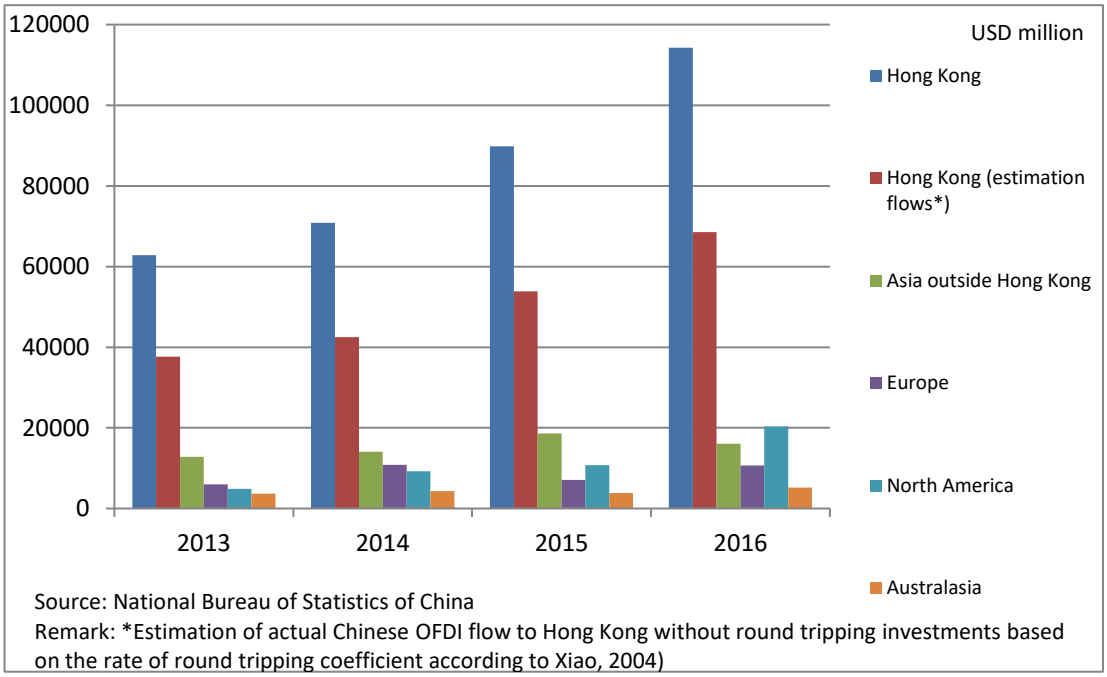
As mentioned by Xiao (2004), escaping regulations is one factor when conducting OFDI, and there is a high chance to generate a round tripping phenomena. Alleviating domestic institutional constraints is a typical push factor in emerging countries to invest abroad (Witt and Lewin, 2007, Luo and Tung, 2007, Tallman, 1988). In regards to China, the strong restrictions in the financial markets, particularly in capital markets, and an ineffective legal system in China are mentioned as the major institutional constraints in the literature (Buckley et al., 2007, Morck et al., 2008, Yamakawa et al., 2008, Hong and Sun, 2006, Sung, 1996, Deng, 2009, Taylor, 2002, Sutherland and Ning, 2011). Many Chinese MNEs were forced to escape from these constraints and seek efficient alternatives, they, therefore, invest overseas in order to enhance the firms' competitiveness.

Xiao (2004) noted that for a majority of Chinese enterprises, their IPO activities on the HKEx and round tripping process are complementary. In most cases, when Chinese enterprises list in HKEx, they would register a new local company in Hong Kong SAR, but with a huge injection of capital from its mainland parent company in the form of buying up a large trunk of the shares (usually about 60 to 70 percent) in the listed subsidiaries in Hong Kong SAR. This would count as Chinese OFDI in Hong Kong SAR since the portfolio investment exceeds the 10 percent threshold for qualifying as OFDI according to Hong Kong official statistical reporting practices. After listing in

HKEx, the listing subsidiaries in Hong Kong SAR then use the capital injection from its parent company and the funds raised from the IPO in Hong Kong SAR to purchase substantive profit-generating projects in mainland China, perhaps from related companies under the supervision of the parent company. Under this phenomenon, this again would count as IFDI from Hong Kong SAR to China according to international practice since the procurement of projects in China by the Hong Kong listed companies are usually more than the 10 percent threshold for FDI investment, and round tripping is generated.

The Census and Statistics Department Hong Kong (2004) conducted a study in Hong Kong SAR and found that round-tripping investments took around 40 percent of Chinese OFDI flows. Meanwhile, Xiao (2004) has identified a similar level of round tripping investments, and the OECD (2008) evaluated the figure at 20 to 30 percent. Based on these findings, the investments beside round tripping accounts for 60 to 80 percent of Chinese OFDI in Hong Kong SAR, which is still significant. Figure 6.3 illustrates the Chinese OFDI with and without round tripping investments and to clarify the picture one more row of Chinese OFDI in Hong Kong SAR without all round tripping investments is added. However, the estimate figures demonstrate the significant role of Hong Kong SAR.

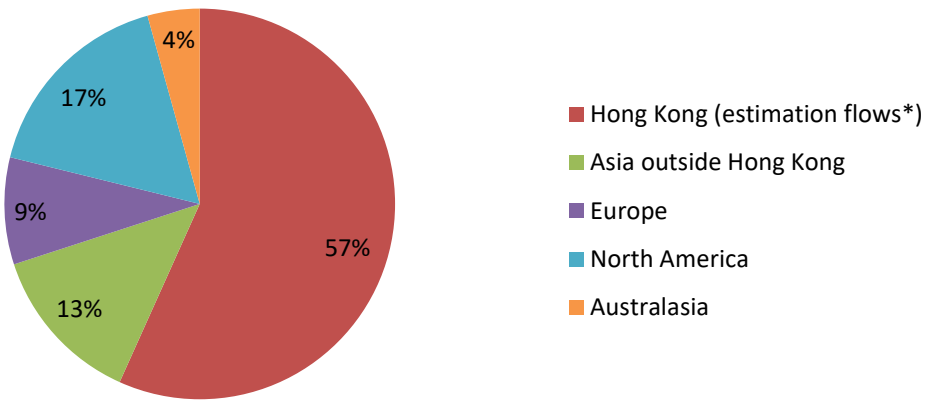
Figure 6.3: Nominal Chinese outflows by country (2010-2016) with estimated actual Chinese OFDI flows to Hong Kong without round tripping investments



Source: National Bureau of Statistics of China
Remark: *Estimation of actual Chinese OFDI flow to Hong Kong without round tripping investments based on the rate of round tripping coefficient according to Xiao, 2004)

The diagram in Figure 6.4 shows the proportion of Chinese OFDI in Hong Kong SAR, given that round tripping investment is removed according to the percentage estimated by Xiao (2004); Hong Kong SAR received 57 percent of Chinese OFDI flows in 2016.

Figure 6.4: Chinese OFDI by region in 2016 after removing round tripping investment in Hong Kong SAR



Source: National Bureau of Statistics of China
Remark: *Estimation of actual Chinese OFDI outflow to Hong Kong base on the rate of round tripping coefficient according to Xiao, 2004)

Garcia-Herrero et al. (2015) referred to Xiao's study and made the assumption that 30 percent of Chinese OFDI stays in Hong Kong SAR, and the remaining 30 percent continued its onward journey. They eventually estimated the Chinese OFDI flows in Hong Kong SAR locally should be USD19.65 billion (versus USD62.82 Chinese official figure), which was still the largest recipient of Chinese OFDI among all host countries or areas in 2013.

In fact, the incentive of Chinese enterprises for taking rent seeking investment in Hong Kong SAR was reducing while the favourable policy of IFDI in China was adjusted in the 2000s. As mentioned by Davies (2012), FDI policies in China switched toward promoting OFDI rather than IFDI. The Chinese government is far less motivated to attract a large volume of IFDI, but is more interested in attracting high quality IFDI, thus the gains from round tripping investments are much less than in the early 2000s. Taking corporate tax as an example, the preferential policy indicated that domestic firms paid 33 percent and foreign firms paid 15 percent income tax rate, but the unification of income tax rates for domestic firms and foreign investors have been standardised, and 25 percent has been the standard tax rate since 2008.

Theoretically, the adjustment of the favourable policy has had a negative impact on the incentive of round tripping investment in Hong Kong SAR, particularly for the labour

intensive, low technology and know-how sectors. However, the unification of tax rate did not discourage OFDI to Hong Kong SAR since 2008, and the outflows to Hong Kong SAR grew continuously.

Motivation of Chinese OFDI in Hong Kong SAR

Chinese enterprises have strong incentives to set up offshore offices, and tax incentives are very significant. Haberly and Wojcik (2015) conducted a study to identify the differences between offshore FDI and real FDI, and the Double Tax Treaties and zero bilateral withholding rate show positive relationships with both real and offshore FDI, and this indicates that tax rate in a host country is an important criteria of OFDI. The current corporate tax rate in China is 25 percent; the tax rate in tax havens and offshore financial centres should be less than that, for instance the corporate rate of Hong Kong SAR is 16.5 percent.

A second motivation for OFDI is the unfavourable environment in China. Chinese OFDI aims to escape from China domestic restrictions, and all elements are treated as institutional constraints in this study. Past studies have found when government and firms have different goals, this conflict and misalignment between firms' needs and the institutional environment generates an escape force for investing abroad (Witt and Lewin, 2007, Luo and Tung, 2007, Tallman, 1988). From the firms' perspective, there

are strong needs of Chinese enterprises looking for overseas markets to address the Chinese institutional constraints.

The third motivation is the financial market. The literature has mentioned the role of the Hong Kong capital market, particularly the stock market, which has become one of the largest initial public offering (IPO) markets in the world. It has been shown that the high OFDI stocks in Hong Kong SAR is highly related to the listing activities of Chinese enterprises.

Xiao (2004) emphasised that Hong Kong SAR plays an important role of capital creation for Chinese enterprises as it supports three stages of capital's journey: 1) the original creation of new capital in China, 2) the capital flight out of mainland China and 3) the round tripping FDI back to China. He also mentioned the high level of round tripping FDI in China should not be interpreted as rent seeking round tripping because a large part of the round tripping capital is actually creating new value for capital as it moves across borders to get better financial services in Hong Kong SAR or other overseas financial centres. This is very much similar to the substance of global FDI activities, including cross-border mergers and acquisitions and cross-border debt financing. The weak domestic financial system in China makes FDI to become an effective and important channel for project financing.

The capital raised in Hong Kong SAR is not limited to financing the operations of Chinese firms in China and Hong Kong SAR, it also supports the internationalisation process. Once OFDI is conducted by the Chinese subsidiaries in Hong Kong SAR, onward journey OFDI is taken. Hong and Sun (2006) pointed out that companies list in mature and efficient capital markets to facilitate them in building up an international image and equipping internalisation advantages in the areas of corporate governance, accounting, auditing, strategic management and business conduct. Moreover, Hong and Sun (2006) found the capital raised by the primary offering or IPO are primarily for international M&A activities. They observed that the four main M&A deals made by PetroChina, China National Petroleum Corporation, China National Offshore Oil Corp and China Petrochemical Corp were completed after their successful listing in Hong Kong SAR and New York in the early 2000s. Li (2007) mentioned the sound legal system in Hong Kong SAR helps enterprises overcome the ambiguous property rights ownership of Chinese enterprises as well as protect their interests in large M&A deals and other commercial agreements, which are further reasons explaining why the M&A activities were done in Hong Kong SAR.

Besides the state owned enterprises, Chinese private enterprises are also active in Hong Kong SAR. Sutherland (2010), Sutherland and Ning (2011) recently examined the motivation of Chinese private OFDI investing in off-shore financial centres by

reviewing annual reports of listed companies in Hong Kong SAR and New York. They identified the main objective of Chinese private MNEs investing in tax havens and offshore financial centres is to facilitate sales related purposes like building up linkages and relationships as suppliers or service providers. In particular, they took Hong Kong SAR as one example, they found the private Chinese enterprises commonly conducted onward journey investments that are market seeking sales and trading activities.

To conclude, Hong Kong SAR takes four major roles in facilitating Chinese OFDI at the moment, including financier, trading partner, middleman and facilitator. The previous examples of listing on the HKEx provide strong evidence of Hong Kong SAR as a financier. The stock market and banking system in Hong Kong SAR offer the channels for Chinese firms to access capital. As a trading partner, Hong Kong SAR still consumes a substantial amount of Chinese goods including daily necessities. Also, Hong Kong SAR is a good platform for Chinese brands to test the market before they officially launch overseas. As a middleman, Hong Kong SAR is an important centre for transhipment for China particularly in air transportation in the 2000s; and it is still one of the top 5 largest export and import trading partners of mainland China. Lastly, Hong Kong SAR is a service centre and facilitator as it is a centre of consultancy services in accounting, auditing, legal, trading, intelligent property standard and international

business. All four roles demonstrate the importance of Hong Kong SAR in the internationalisation of Chinese enterprises.

Last but not the least, there are possibilities to have other motivations besides round tripping, for instance, Sutherland (2010) and Sutherland and Ning (2011) mentioned onward-journeys investment is highly possible as well.

6.5 Research Questions

In this section, the research questions of the study are discussed one by one. In total, four research questions are developed, and each one is interrelated.

From the official statistics, it is learnt that a significant proportion of Chinese OFDI is invested in Hong Kong SAR annually; unfortunately, to date, the extent of Chinese OFDI in Hong Kong SAR is unknown, and no empirical study has investigated it. As explained previously, Hong Kong SAR took 58.2 percent of 2016 Chinese OFDI flows, without further investigation, the Chinese OFDI puzzle is not complete. Thus, the understanding of the motivations of Chinese OFDI investments in Hong Kong SAR is critical, and the first research question is:

1. What are the motivations for Chinese OFDI investing in Hong Kong SAR?

As mentioned earlier, there are round tripping activities of Chinese enterprises in Hong Kong SAR, and these were confirmed by the official department of Census and Statistics Department Hong Kong and OECD. As round tripping takes around 30 to 40 percent of Chinese OFDI in Hong Kong SAR, this area in the study of Chinese OFDI in Hong Kong SAR cannot be overlooked. Xiao (2004) has defined the nature of rent seeking and value added round tripping investments, and a deeper understanding of the nature of round tripping in Hong Kong SAR would facilitate us to answer the first question.

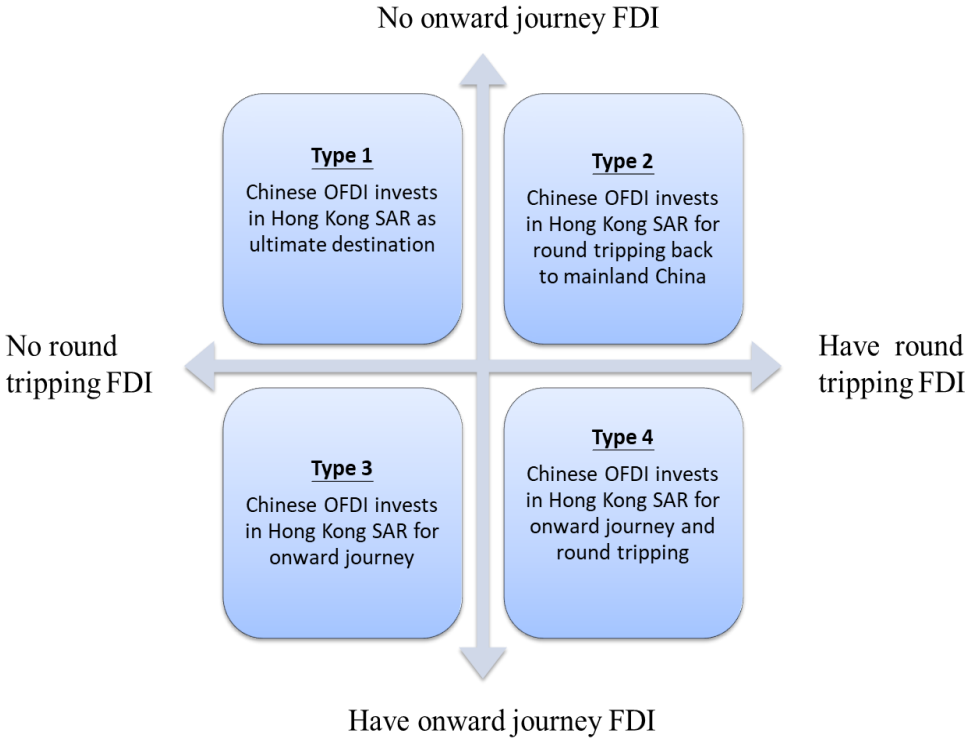
2. Given that Chinese enterprises take round tripping investment in Hong Kong SAR, what are the major motivations for conducting round tripping Chinese OFDI? Rent seeking or value added?

Besides round tripping, it is possible for Chinese enterprises to conduct onward journey investments from Hong Kong SAR. In previous literature, Sutherland (2010), Sutherland and Ning (2011) noted that the subsidiaries of Chinese private enterprises take market and efficiency seeking activities in S.E. Asia as good evidence of onward journey OFDI. The third question about onward journey OFDI becomes:

3. Do Chinese enterprises use their subsidiaries in Hong Kong SAR to undertake onward journey OFDI? If so, what are the major motivations for conducting onward journey OFDI?

Based on the behaviour of round tripping OFDI and onward journey OFDI mentioned in research questions 2 and 3, the Chinese OFDI in Hong Kong SAR can be categorised by two dimensions. The first dimension is determined by whether round tripping activities have been conducted, and the second dimension is determined by whether onward journey activities have been made. A matrix describing the four types of the Chinese OFDI in Hong Kong SAR is shown in Figure 6.5.

Figure 6.5: Matrix describing four types of Chinese OFDI in Hong Kong SAR



The four types of Chinese OFDI in Hong Kong SAR are classified by these two dimensions.

- Type 1 refers to Chinese OFDI in Hong Kong SAR as ultimate destination.
- Type 2 refers to Chinese OFDI in Hong Kong SAR that conducts round tripping activities and invests in mainland China.
- Type 3 refers to Chinese OFDI in Hong Kong SAR that conducts onward journey investments.
- Type 4 refers to Chinese OFDI in Hong Kong SAR that conducts both round tripping and onward journey investments.

Based on the above classifications, the common characteristics of each type of company could be categorised, and their motivations for investing in Hong Kong SAR could be found. The fourth research question is:

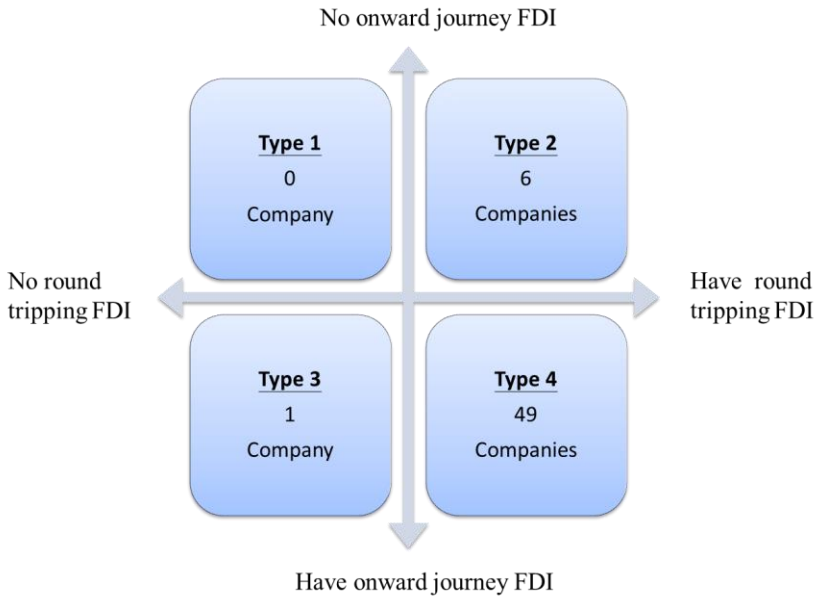
4. What are the behaviour and motivation of each type of company mentioned in the matrix?

In order to test the practicability of this matrix, 57 red chip listed companies owned by mainland government entities or individuals and incorporated in Hong Kong SAR together with 18 P-share companies owned by Chinese private enterprises and

incorporated in Hong Kong SAR are categorised into these four types based on their investment activities mentioned in their 2013 annual report. In both sample groups, it was learnt that all subsidiaries of listed companies in Hong Kong SAR have conducted FDI, and a large proportion of the investment is conducted in China.

In the sample group of 57 red chip companies, one company did not disclose its FDI activities. Among the remaining 56 companies, China was still the most popular host country, around 74.17 percent stocks were invested in China and the total stocks in China were USD 129,956 million up to the end of 2013. The second most popular host country was British Virgin Islands (BVI) with USD 21,650 million stocks; while Canada became the third most popular host country, with accumulated stocks valued at USD 13,402 million. These companies are classified in the matrix shown in Figure 6.6.

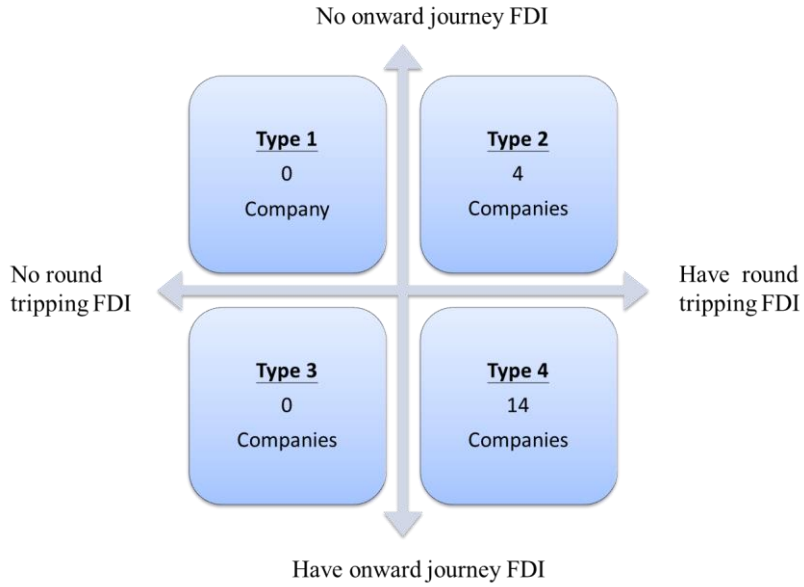
Figure 6.6: Matrix of fifty-seven red chip companies



Six companies are categorised as type 2 as the subsidiaries in Hong Kong SAR invest in mainland China by round tripping. One company is classified as type 3 as it conducts onward journey investment only. 49 out of the 57 companies are classified as type 4, which means they conduct round tripping and onward journey investments, and no type 1 company is found from the sample.

In the sample group of 18 P-share companies, 100 percent of them have invested in mainland China. The total nominal value of investment stocks outside Hong Kong SAR invested by these companies were USD 8,469 million in 2013, and 99 percent of the outward investments were made in China, followed by India and Bermuda with extremely low values. Figure 6.7 shows that there are no type 1 and 3 companies, and four companies are categorised as type 2, which means the subsidiaries in Hong Kong SAR invest in mainland China. Finally, 14 out of 18 companies are classified as type 4 as they conduct both round tripping and onward journey investments.

Figure 6.7: Matrix of eighteen P-share companies



6.6 Research Design

China and Hong Kong SAR official statistics have different definitions of FDI and adopt different statistical principals. Thus, OFDI statistics from mainland China and IFDI statistics in Hong Kong SAR are not aligned. One of the mismatches is on the counting of financial transactions through the stock markets according to Xiao (2004), China does not put a limit on the percentage of shares owned by investors (10 percent under OECD standard). Another mismatch is that China only reports statistics on FDI inflows and does not report the statistics based on market value of FDI stock. In 2000, Hong Kong SAR recorded USD 46.3 billion FDI to mainland China caused by IPO activities but only USD 15.4 billion was recorded in official Chinese statistics, the gap of USD 30.9 billion to a certain extent is explained by round tripping FDI related to IPO

activities in Hong Kong SAR by Chinese enterprises, but this still needs further investigation.

Primary data is the main source of information and interviews and questionnaires are the core research methods for collecting raw data in the study. Meanwhile, with supplementary information and data published in listed companies' annual reports, the details of FDI activities of each listed company are collected, including H-share companies, red-chip companies and P-share companies.

Even though studying these listed companies might create sample issues, there are three major advantages for selecting these listed companies as the sample in the study. Firstly, the companies are incorporated in Hong Kong SAR and are governed by the Companies Ordinance (Ord. No. 28 of 2012) which is approachable. Secondly, the data disclosed to the public is reliable and accurate, and it is audited by external auditors. Thirdly, all listed companies in Hong Kong SAR are governed by the Exchange Listing Rules under section 23 of the Securities and Futures Ordinance; they are required to disclose financial performance quarterly and annually including an operation overview of Hong Kong subsidiaries of Chinese firms, their FDI activities, and their mergers and acquisitions (M&A) details to the public.

Meanwhile, the view from the government is also important, as the government actively encourages the Chinese OFDI in Hong Kong SAR by regulations and policies; thus, obtaining input from the government provides insights from the view of the regulator. In the following, the research data collection method and information from Chinese enterprises in Hong Kong SAR are described in the first part. The method of collecting data and information from Hong Kong SAR government is explained in the second part.

Research method for the Chinese enterprises in Hong Kong SAR

The Hong Kong SAR government, except for the listed companies, only has the registry record and the taxation report of the Chinese enterprises, and it is foreseeable that data accessibility from them is an issue. The target group in this research, therefore, is the 876 Chinese enterprises who have established a subsidiary in Hong Kong SAR and listed in Hong Kong SAR through either the direct or indirect approach up to 31 October 2013. The listed companies are legally required to publish annual reports and quarterly reports, and the information is relatively transparent and reliable. Moreover, the information about overseas investments and acquisitions are recorded which provide secondary insights for this study.

However, the secondary information that is available is not good enough to understand their motivation for investing in Hong Kong SAR, also the push factors in China and

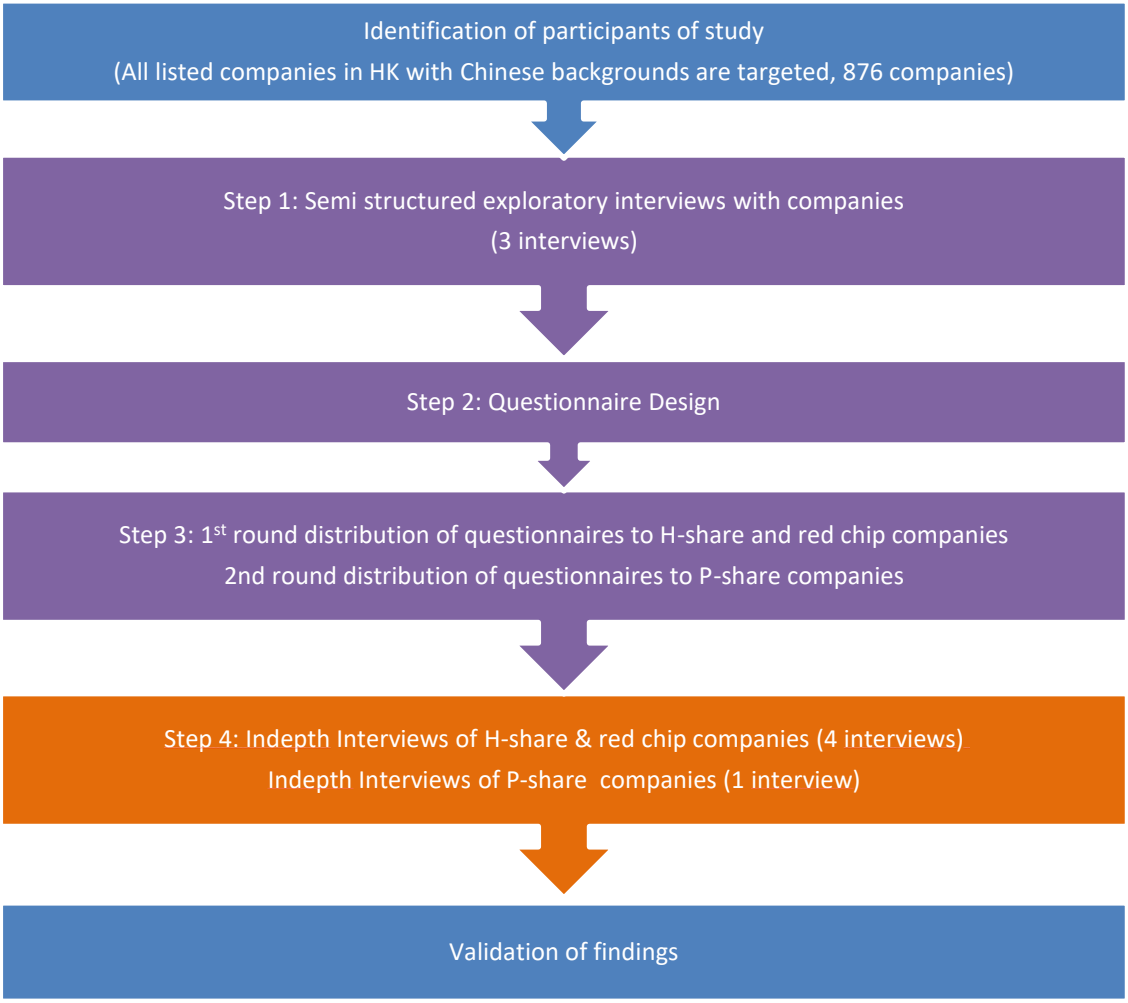
pull factors in Hong Kong SAR are not available from the secondary sources. Thus, primary research is necessary for collecting more in-depth and specific information.

As the target sample is 876 Chinese enterprises that are registered or set up as subsidiaries in Hong Kong SAR and listed in Hong Kong SAR via the direct and indirect approach, there might be some challenges in the data collection process. Firstly, the companies are not easily approachable because of the large number of companies and the contact addresses of some the companies are in mainland China. Secondly, the background and organisation of the Chinese enterprises are very diverse, so the response and understanding of the four research questions might vary and the open-ended questions in a survey might not be good enough for in-depth investigation. Thirdly, internationalisation of Chinese firms is driven by government policy and state-owned enterprises treat this as a sensitive and confidential topic, so the companies might not openly disclose their strategies and current OFDI activities. Because of the above reasons, a single research method might not be sufficient to collect relevant information for further analysis; thus, a mixed method research approach is adopted.

By leveraging both questionnaires and interviews, a better balance of validity and reliability of research methods might be achieved. To collect representative information, approaching the right respondents is important, and the sequence of questioning in

questionnaires and interviews is critical. Figure 6.8 explains the whole process of data collection from the target sample and further explanation is made in the following parts; part A describes the primary research with Chinese enterprises and part B explains secondary research of Chinese enterprises.

Figure 6.8: Flow chart of data collection from Chinese enterprises



Step 1: Semi structured exploratory interviews with companies

Chinese OFDI in Hong Kong SAR is quite dynamic and each investment may have different motivations in political and commercial perspectives, which is a challenge for

the questionnaire design. In order to collect more background information and understand the OFDI situation in Hong Kong SAR, three exploratory interviews were conducted. Each interview lasted 30 to 45 minutes and was conducted in Mandarin or Cantonese. All interviews were recorded after granting the acceptance of interviewees and the content was interpreted in English by a professional translator and then back translated from English into Chinese by another translator. By adopting this parallel translation method, the English version interpretation should match with the original statements of the interviewees.

The interviews aim to facilitate the design of the questionnaire which investigates the motivation of Chinese enterprises investing in Hong Kong SAR, as well as understanding the operation set up and mode of operation in Hong Kong subsidiaries.

Step 2: Questionnaire design

The purpose of conducting the questionnaire is to access firm level Chinese OFDI statistics in Hong Kong SAR, meanwhile the design of the questionnaire aims to answer questions in five areas, which are: 1) the motivations of Chinese enterprises investing in Hong Kong SAR. 2) The push factors in China which force Chinese enterprises to invest in Hong Kong SAR. 3) The pull factors in Hong Kong SAR which attract Chinese

OFDI. 4) The business scope of Hong Kong subsidiaries of Chinese enterprises, and 5) the situation of onward journey and round tripping FDI from Hong Kong SAR.

The questionnaire is separated into four parts. The first part aims to collect the company set up information of Hong Kong subsidiaries. The questions are related to the history, background and business scope of the subsidiaries. The second part requests the respondents to fill in the factors considered when setting up Hong Kong subsidiaries. Both favourable factors in Hong Kong SAR and unfavourable factors in China are asked by close-ended questions, and several open-ended questions regarding the impact of factors on the business environment are added. The third part focuses on the topic of onward journey FDI from Hong Kong SAR, and it focuses on the general situation of onward journey FDI from Hong Kong SAR of Chinese enterprises, for instance, questions about the geographic distribution, industry distribution and nature of OFDI are asked. Furthermore, the rationale behind conducting FDI in Hong Kong SAR instead of investing in host countries directly from mainland China are evaluated which might provide understanding on the role of Hong Kong SAR. The last part focuses on the general view of Chinese OFDI in the future; the questions asked in this section are related to the long-term trend of internationalisation of Chinese enterprises. Before the end of the questionnaire, there is an open question to ask for the intention of participating in an in-depth interview.

The questionnaire was designed in English and translated into Chinese by a professional translator, and back translated from Chinese into English again by another translator. A comparison of the two English questionnaires ensures that the Chinese version is accurately interpreted. Both English and Chinese questions are shown on the questionnaires, and a copy of the questionnaire is enclosed in Appendix 6.3.

Step 3: Distribution of questionnaires to target companies

The questionnaires were distributed to the public relations or investor relations departments of the target companies in Hong Kong SAR and mainland China together with the invitation letter. Previous studies have shown that the response rate of mail surveys in Hong Kong is relatively low, which may be caused by changes of office addresses occasionally because of high rental and high turnover rates (Harzing, 1997). Therefore, the questionnaires were distributed by two ways in order to increase the response rate. Each target company should receive both hard copy questionnaires which are distributed through the post with a prepaid stamp return envelope and an online survey.

Step 4: In-depth interview

The interview, after conducting the questionnaire, is no longer considered an exploratory study. The objective of each interview is to obtain the details of

internationalisation strategies of the particular firms based on the responses of the questionnaires collected. The target companies of the interviews are the respondents who indicated their interest to participate in the interview in the returned questionnaires, and the target interviewees are in the management of the companies who respond or support the overseas business development.

The questions in the interviews were highly relevant to the research questions, and most questions were based on the inputs given in the questionnaires; therefore, the discussion is related to the locational factors to invest in Hong Kong SAR, status of investment, motivation of investing in Hong Kong SAR, as well as any investment activities from the subsidiaries in Hong Kong SAR. Other than that, the set up and organisation of Hong Kong operations are investigated. The interview participant information sheet is enclosed in Appendix 6.1.

Other than primary research, the annual reports of the listed companies are another information source to understand the subsidiaries of Chinese enterprises. In this secondary research, the annual reports of companies with a Chinese background incorporated in Hong Kong SAR and listed on the HKEx are collected. A similar research method and source of information were used when Sutherland and Anderson (2015) identified the pitfalls of using official Chinese OFDI statistics.

Year 2003 and 2013 yearbooks of Chinese background subsidiaries incorporated in Hong Kong SAR listed on the HKEx were collected and reviewed. By reviewing the annual reports, the scale and nature of their Hong Kong operations in general, as well as the overseas investment activities from the firm perspective are learnt.

Research method for the government in Hong Kong SAR

Inputs from the government provide an additional angle for insight, particularly from the regulation and policy perspective. InvestHK is the most relevant official department in the Hong Kong SAR to be interviewed as it is responsible for attracting FDI and supporting overseas, China and Taiwanese businesses to set up and expand in Hong Kong SAR. The department was established in 2000, with teams of specialists in 27 key cities worldwide that look after target markets in Asia Pacific, Europe, the Middle East and North and South America. As China is one of the focus markets, InvestHK has offices in Beijing, Shanghai, Guangzhou and Chengdu. An invitation letter was sent to InvestHK office, and the main purpose of the letter is to invite a representative to discuss four research questions. The list of questions was drafted and shared with InvestHK for comment before the official interview.

6.7 Findings of Interview with InvestHK

InvestHK is the government department that is tasked with attracting FDI in Hong Kong SAR and can provide much insight, particularly with the support from the head of InvestHK, Simon Galpin. Two interviews were conducted successfully in November 2014.

The interviewees in the first interview were Simon Galpin and Loretta Lee, who is Head of China Business, and the interview was conducted by video conference. The second interview was a face to face meeting with Ada Yeung and Ma Kei, who are the Deputy Director and Investment Promotion Manager of the Shanghai office, and it was conducted in the InvestHK Shanghai office. Each interview lasted 90 minutes and was recorded after granting acceptance of the interviewees. The content was translated into English by a professional translator and then back translated from English into Chinese by another translator.

Factors in China that push Chinese enterprises to invest in Hong Kong SAR

According to the response from InvestHK, foreign exchange controls and immature capital markets in mainland China are major factors pushing Chinese enterprises to invest abroad.

In the 2000s, the majority of investors in Hong Kong SAR were state-owned enterprises as private enterprises were not allowed to conduct OFDI activities. Most of them came to Hong Kong SAR for conducting IPOs in order to access capital for business operations. At that time, the central government encouraged the state-owned enterprises to list in overseas stock markets as the stock markets in Shanghai and Shenzhen were not mature.

In recent years, the issue of capital markets in China has not been addressed and the medium size private enterprises suffer quite a lot because they cannot enjoy favourable government policies. Firstly, the scale of these enterprises, generally, is not large enough to access capital and funding from commercial banks in mainland China. Secondly, they do not enjoy favourable Go-Global policies because most of the policies are designed for state-owned enterprises.

Factors in Hong Kong SAR attracting Chinese OFDI

"One country, two systems" is the most essential element to maintain Hong Kong SAR's competitive advantage according to InvestHK. Under the governance of the Basic Law, Hong Kong SAR maintains a close connection to international business practices, and foreign companies feel legally secure running businesses in Hong Kong SAR; meanwhile, Chinese enterprises consider Hong Kong SAR as a part of China and the owners feel comfortable when they invest their assets within China. According to the InvestHK team in Shanghai, this is the most obvious competitive edge of Hong Kong SAR in contrast to other offshore financial centres such as Singapore.

Moreover, InvestHK mentioned six successful elements of Hong Kong SAR, which include a) international financial market, b) world-class professional services, c) good human capital, d) well-established education systems, e) cost effective total operation costs, and f) mature legal system.

In the long run, the importance of Hong Kong SAR for the internationalisation of Chinese firms is increasing based on the analysis of InvestHK, and its role is strengthening while its foundation as an offshore RMB centre is well established. Besides, Hong Kong SAR provides a platform for Chinese enterprises to connect with international business practices in terms of accounting, corporate finance, legal and

sales, and marketing etc. In other words, Hong Kong SAR under “one country, two systems” takes a strategic role for Chinese enterprises in acquiring international standards and providing a “testing laboratory” to practice by trial and error before investing overseas.

Round-tripping vs onward journey

According to InvestHK, both round-tripping and onward journey investments are very common. Rent seeking round tripping investments conducted by China enterprises were very common in the 1990s and 2000s, when the Chinese government provided a wide variety of favourable policies to attract FDI. However, these activities became less and less in the 2010s as the favourable policies of IFDI in China were mostly abolished. The unification of income tax rates in 2008 is one example. The Chinese government adopted a dual income tax rate for domestic and foreign companies before 2008, which means that domestic firms paid 33 percent and foreign firms paid 15 percent income tax. Theoretically, the abolishment of this favourable policy had a negative impact on the incentive for round tripping investment in Hong Kong SAR.

In the 2010s, the reason to conduct round tripping investments is to access capital in Hong Kong SAR in order to finance the operations in China. The stock market is a normal way for fund raising and listing in Hong Kong SAR is extremely fast compared

with local stock markets in China for both state owned enterprises and private enterprises.

On the other hand, onward journey investments are also increasing according to InvestHK. China enterprises utilize the pull factors in Hong Kong SAR to compensate for their internal competitive disadvantages of running international businesses. When the enterprises invest in Hong Kong SAR, they access professional services, human capital to support their regional operations, foreign trade and foreign direct investments.

Other insights of Chinese OFDI in Hong Kong SAR

Other than the key topics mentioned above, there are a few more insights regarding the trend of Chinese OFDI in Hong Kong SAR highlighted by InvestHK. Firstly, Chinese OFDI flows in Hong Kong SAR are increasing. InvestHK mentioned that deregulation in China encourages private enterprises to go abroad, which will stimulate more investment in Hong Kong SAR. With limited resources and support from the Chinese government, private enterprises are less likely to take unnecessary risk; therefore Hong Kong SAR is a good platform for equipping necessary know-how and knowledge in the international business environment before reaching a final destination. Medium size enterprises, in particular, are the active players in the OFDI activities in Hong Kong SAR, and the investments facilitate them to maintain flexibility and accessibility to

customers, as well as capital and market information to escape from the institutional constraints in mainland China.

Certainly, OFDI from state owned enterprises in Hong Kong SAR will reduce in the long run, and in particular for the onward journey investments. The Chinese government is signing bilateral free trade agreements with different countries; these agreements aim to secure access to raw materials and technology in the future by Chinese OFDI.

Secondly, both the number of firms and value of Chinese OFDI in Hong Kong SAR are rising as the central government continuously encourages Chinese enterprises to "Go Global". Meanwhile, deregulation definitely stimulates more investment by private enterprises.

However, InvestHK also foresees limitations for Hong Kong SAR. While China is continuously signing free trade agreements with different foreign countries, the agreements should facilitate direct trade and direct investment, which may have a negative impact on Hong Kong SAR in the future.

6.8 Questionnaire Findings of Hong Kong Subsidiaries of Chinese Enterprises

For the survey, a total of 876 questionnaire sets were sent out at two different periods. In the first round, 324 questionnaires were distributed to listing companies which are either controlled by mainland government entities or individuals, and they included 194 H-share companies and 130 Chinese companies that are incorporated outside mainland China (including Hong Kong SAR) and issue red-chip shares. The second round targeted to reach 552 listing companies which are either controlled by private entities or individuals.

Unfortunately, the response rate was extremely low in both rounds. In the first round, only nine questionnaires were returned and the response rate was around three percent. In the second round which targeted the subsidiaries of Chinese private enterprises, the response rate did not improve. Eventually only nine questionnaires were returned, and the response rate was around 1.6 percent with one of them having lots of missing data so the data is not considered in the analysis.

In summary, 876 sets questionnaires have been sent out, and the response rate was 2.05 percent. The low response rate means the feedback from the eighteen companies are not

representative; however, they might provide some insights for the discussions during the interviews. In the following part, the major findings from the survey of all samples are summarised. Meanwhile, the results of the listing companies owned by mainland government entities or individuals and private enterprises are included in Appendix 6.4.

In the response group, nine companies are either controlled by mainland government entities or individuals, the other eight companies are either controlled by private enterprises or individuals. Table 6.1 summarises the company scale and business situation of each company.

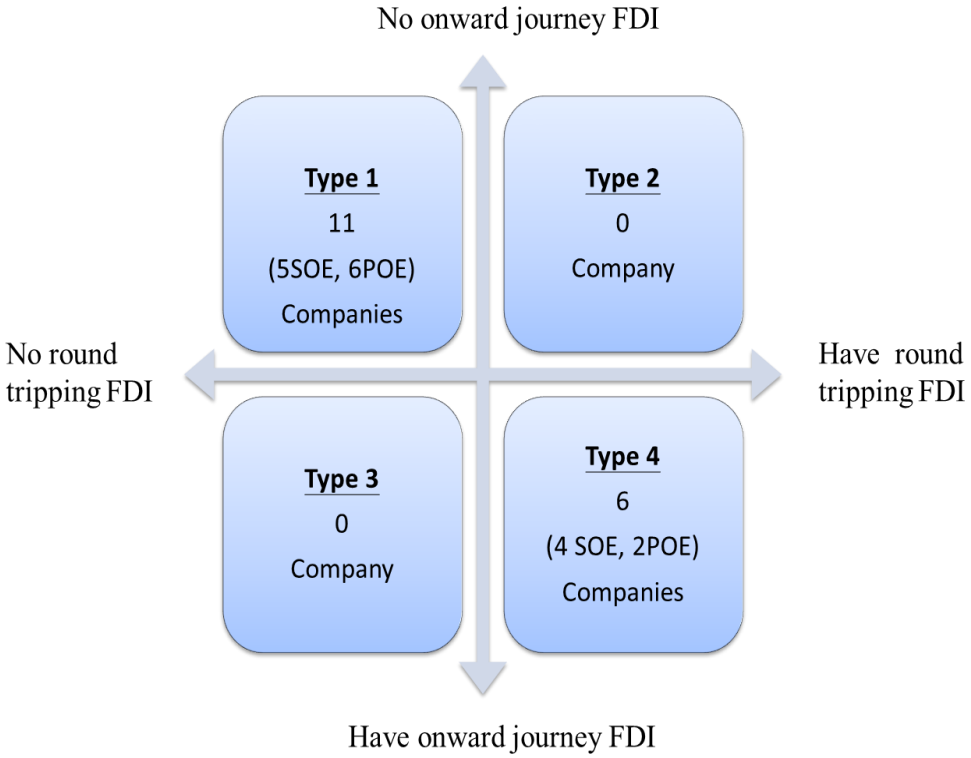
Table 6.1: Statistics of company scale and business conditions of the respondent companies

	Sales turnover (USD million)	Net Profit (USD million)	Total Assets (USD million)	Total Liabilities (USD million)	Employee Number	Total FDI stock (USD million)
Mean	1,933	115	3,097	1,301	24,335	167
Min	74	-2	118	11	241	0
Max	18,858	406	20,001	9,491	217,000	1,503
SD	4,937	132	5,365	2,577	60,220	398
Missing Data	3	3	3	3	4	3
Valid Sample	14	14	14	14	13	14
Sample	17	17	17	17	17	17

In addition to the comparison of the ownership of the subsidiaries in Hong Kong SAR, i.e. state owned enterprise and private enterprises, the experience of round tripping and onward journey is another criterion to separate the group of companies. Based on the

matrix design presented in section 6.5, each company can be categorised into four sub-groups. Among the seventeen respondents, six companies conduct round trip investments in China as well as onward journey investments, and they are classified as type 4 company. The balance of eleven companies mentioned no FDI activities have been conducted in their Hong Kong office, so they are type 1 company. To sum up, there are only two types of companies according to the matrix of round tripping and onward journey experience which are indicated in Figure 6.9.

Figure 6.9: Matrix of the seventeen questionnaire respondent companies



After understanding the background of the response group, the findings of the questionnaires are presented in three parts. Part A describes the results relevant to

Chinese OFDI in Hong Kong SAR. Part B presents the findings of OFDI of Hong Kong subsidiaries of Chinese MNEs. Lastly, Part C provides additional findings from the annual reports of the respondents.

Part A: Findings of Chinese OFDI in Hong Kong SAR

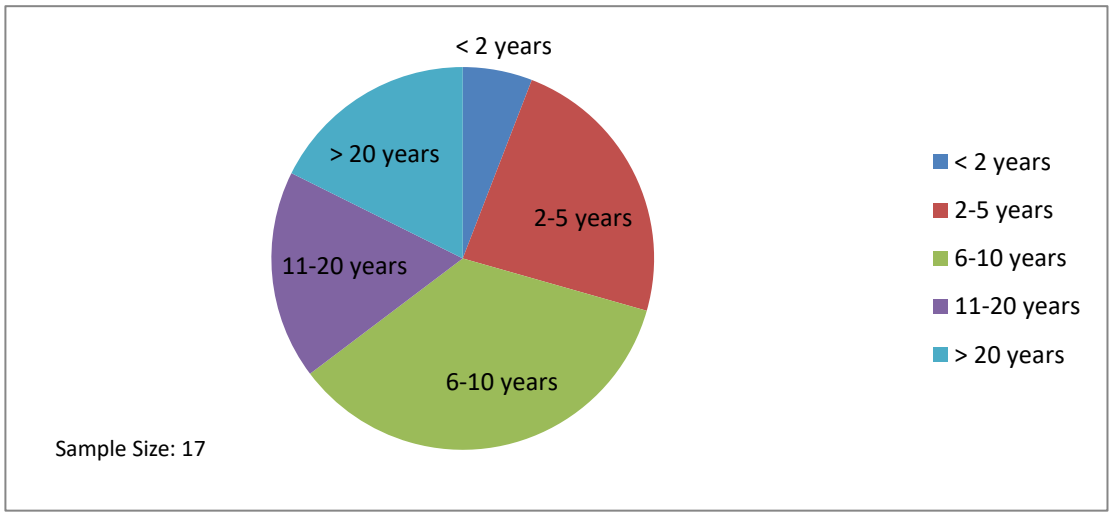
The findings for each question relevant to Chinese OFDI in Hong Kong SAR are summarised, and the details are described one by one.

Background information of Hong Kong subsidiaries

In Figure 6.10, six out of seventeen companies were established between six to ten years. Three companies were established for 11 to 20 years, and three companies were established for more than 20 years. Among the two different ownership groups of companies, it is observed that the subsidiaries owned by Chinese state-owned enterprises have operated in Hong Kong SAR for more than ten years. On the other hand, the private enterprises have a shorter history of operations in Hong Kong SAR, and four out of eight companies have been established for more than six years.

Figure 6.10: Duration of operations in Hong Kong SAR

Question: How long has the company been operated in Hong Kong?



A similar situation with the history of listing in Hong Kong SAR was found. Figure 6.11 shows the duration of listing in HKEx. Six companies have listed for more than ten years and all of them are state owned enterprises. For the private enterprises, all of the subsidiaries have listed in HKEx for less than ten years.

Figure 6.11: Duration of listing on the Hong Kong Exchange

Question: How long has the company been listed in Hong Kong?

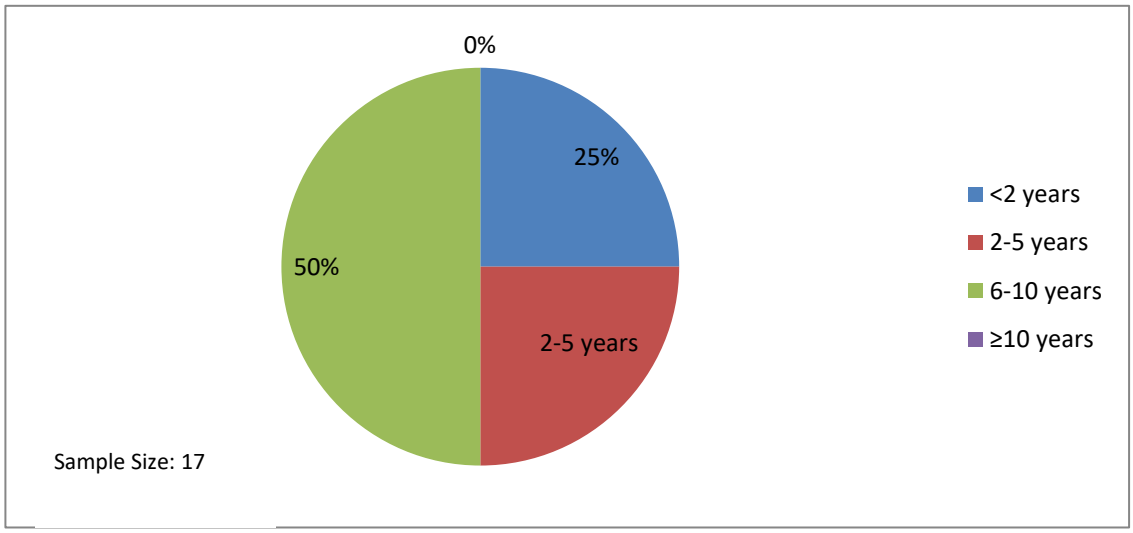
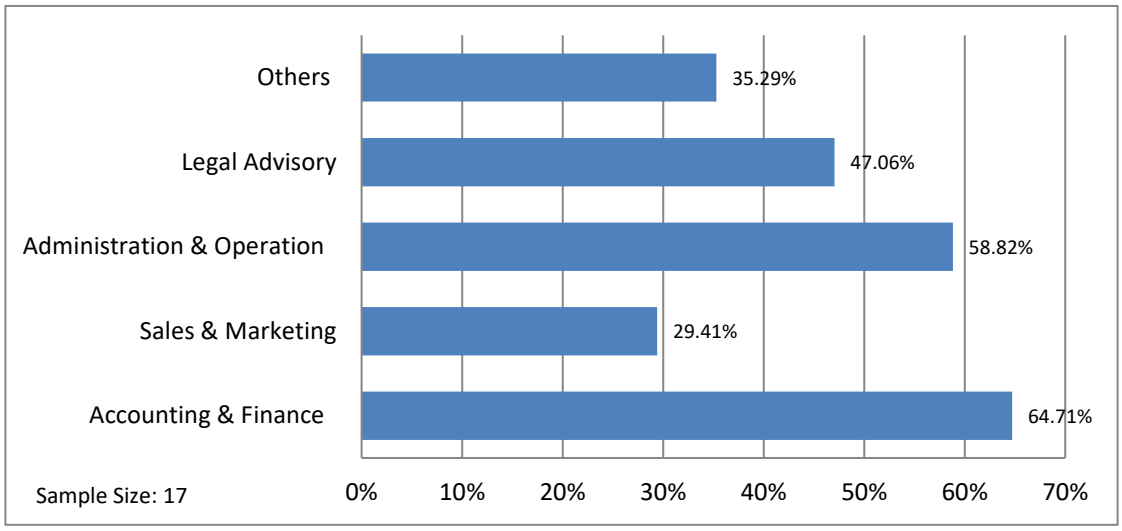


Figure 6.12 shows the major business functions of the Hong Kong subsidiaries. Eleven out of the seventeen companies set up accounting and finance functions in Hong Kong SAR. Additionally, ten companies set up administration and operations, and eight companies set up legal teams in Hong Kong SAR.

Figure 6.12: Major business functions of the Hong Kong operations

Question: What are the major business functions in Hong Kong?



In the subsidiaries of state-owned enterprises, eight out of nine companies have accounting and finance departments for maintaining the daily operations of accounting, auditing and corporate finance. Five respondents also have legal teams to provide professional legal advice, particularly on the listing, corporate finance and contracting. For the subsidiaries of private enterprises, six out of nine have teams for administration and operation functions, and four respondents have an investor relation team.

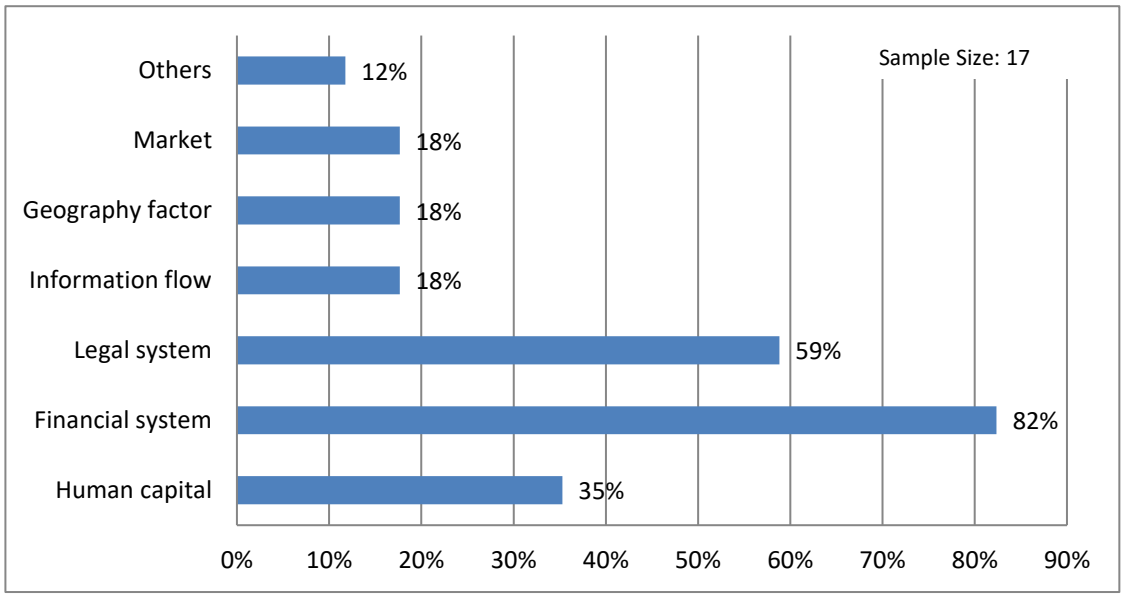
Based on the above findings, it is observed that these two groups of companies have different needs in Hong Kong SAR. The state-owned enterprises highly leverage their subsidiaries in Hong Kog SAR for finance and legal purposes. Meanwhile, administration and investor relations are the major functions of setting up a Hong Kong subsidiary among Chinese private enterprises.

Besides, it is learnt that the major business functions of type 1 companies in Hong Kong SAR are accounting & finance (54.55%), and this is followed by administration & operation (45.45%). On the other hand, type 4 companies have the same needs of accounting and finance, with five out of six companies having this function. Additionally, they have set up legal advisory teams and administration and operation teams in their subsidiaries.

Factors considered in setting up Hong Kong subsidiaries

The responses from both company groups are identical. The respondents identified the stable and reliable financial and legal system as key advantages of Hong Kong SAR, which is shown in Figure 6.13. Fourteen and ten out of the seventeen respondents ranked financial system and legal system respectively as favourable factors for establishing a subsidiary in Hong Kong SAR.

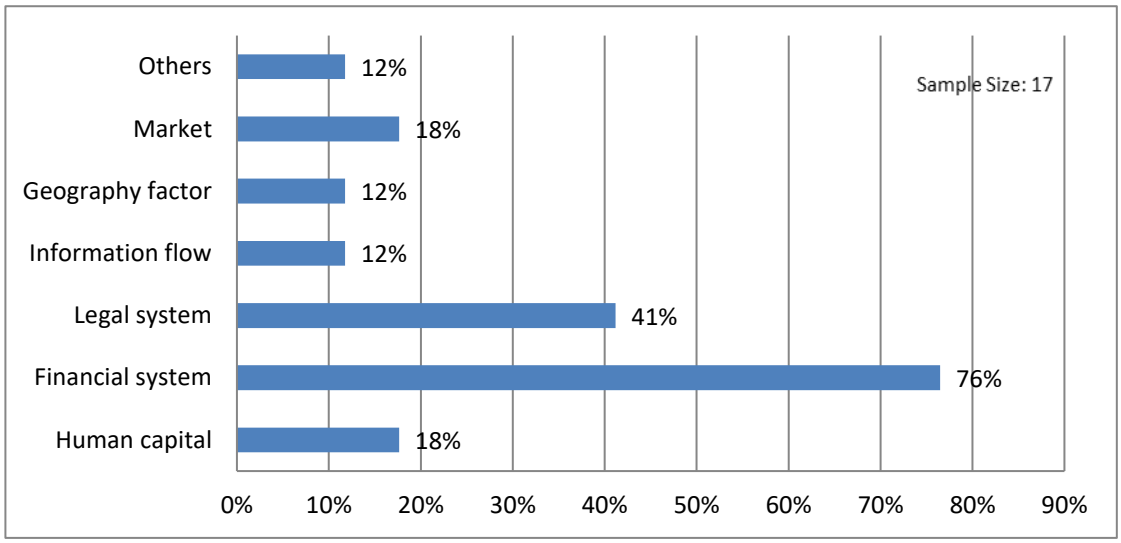
Figure 6.13: Favourable factors in Hong Kong for establishing a subsidiary
Question: What is the favourable factor(s) in Hong Kong for establishing a subsidiary? (Max 3 options)



On the other hand, these two factors are considered unfavourable factors in mainland China which push the investors to set up a subsidiary in Hong Kong SAR. In Figure 6.14, thirteen out of seventeen companies ranked the immature financial system as a major reason pushing them to invest into Hong Kong SAR. Besides, seven respondents mentioned the legal system in China is unfavourable for business operations.

Figure 6.14: Unfavourable factors in China that encourage the establishment of a subsidiary in Hong Kong

Question: Are there any unfavourable factors in mainland China that encouraged you to set up a subsidiary in Hong Kong? (Max 3 options)



From the ownership perspective, both company groups rank financial system and legal systems as favourable factors of Hong Kong SAR and unfavourable factors of mainland China.

From their investment experience perspective, type 1 companies have a clear view on the favourable factors of the financial system in Hong Kong SAR. However, type 4 companies have a diverse view, they see finance and legal systems as equally important, and human capital is the third favourable factor for investing in Hong Kong subsidiaries. For unfavourable factors in mainland China, type 1 companies only consider the financial system as the limitation, but a majority of type 4 companies identify both financial and legal systems as the major obstacles in China.

Part B: Findings on OFDI of Chinese MNEs subsidiaries in Hong Kong SAR

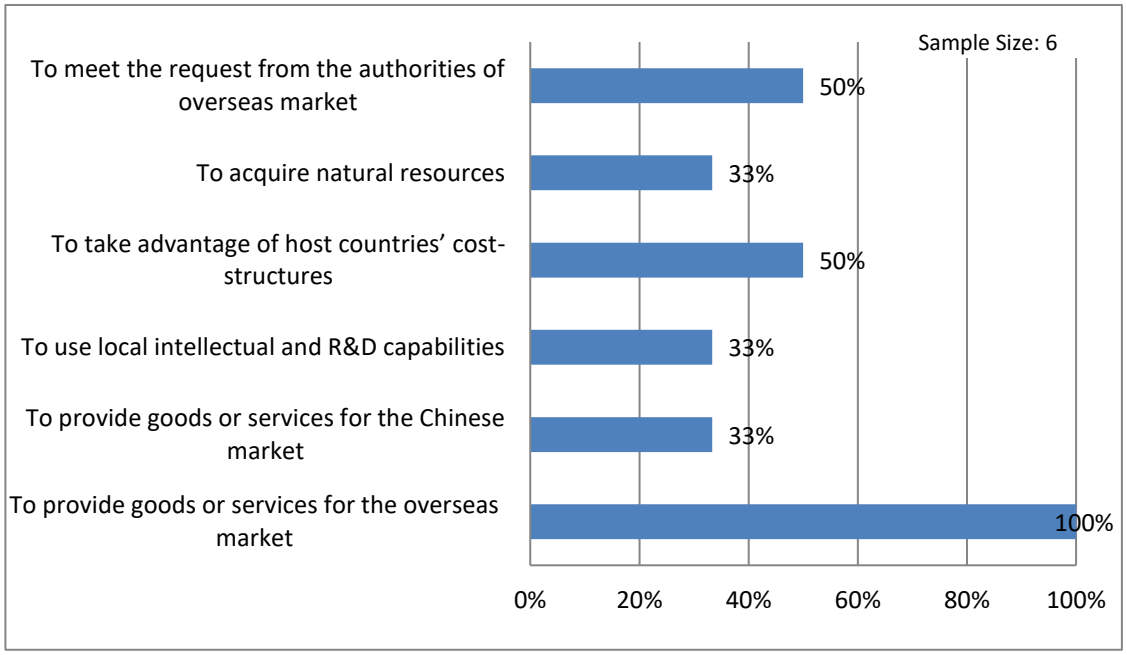
This part focuses on the OFDI activities conducted by subsidiaries of Chinese MNEs in Hong Kong SAR. From the questionnaires, insights about onward journey and round tripping FDI were gained.

Onward journey and round tripping FDI from Hong Kong SAR

Six out of seventeen have onward journey and round tripping investments from Hong Kong SAR in Figure 6.15.

Figure 6.15: The strategic objectives in investing overseas via Hong Kong subsidiaries

Question: What are the strategic objectives for the company in investing overseas via a Hong Kong subsidiary? (Max 3 options)



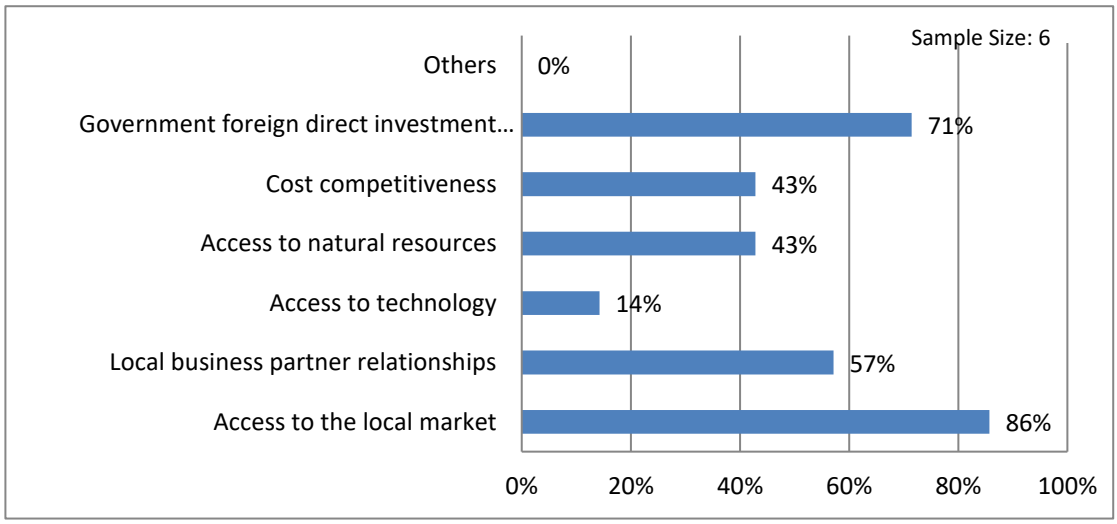
In the subsidiaries of state-owned enterprises, four out of nine companies conduct onward journey investments from Hong Kong SAR, and they mentioned that providing better goods or services for the overseas markets is a strategic objective to set up an operation in Hong Kong SAR. The next three objectives are to acquire natural resources, to use local intellectual and R&D capabilities, and to provide goods or services for the Chinese market. Based on the responses, market seeking and strategic asset seeking are the two major motivations to invest overseas.

In the subsidiaries of private enterprises, only two out of eight companies conduct onward journey investments from Hong Kong SAR. Their objectives are to provide goods or services for the overseas market, to take advantage of host countries' cost-structures, and to meet the requests from the authorities of overseas markets.

Meanwhile, when Hong Kong subsidiaries make OFDI decisions, five out of six respondents consider the accessibility to local market, followed by government foreign direct investment policy and local business partner relationships. The results in Figure 6.16 indicates that market seeking is the key motivation for onward journey investments in this group of companies.

Figure 6.16: Environment factors affecting foreign direct investment decisions from Hong Kong subsidaries

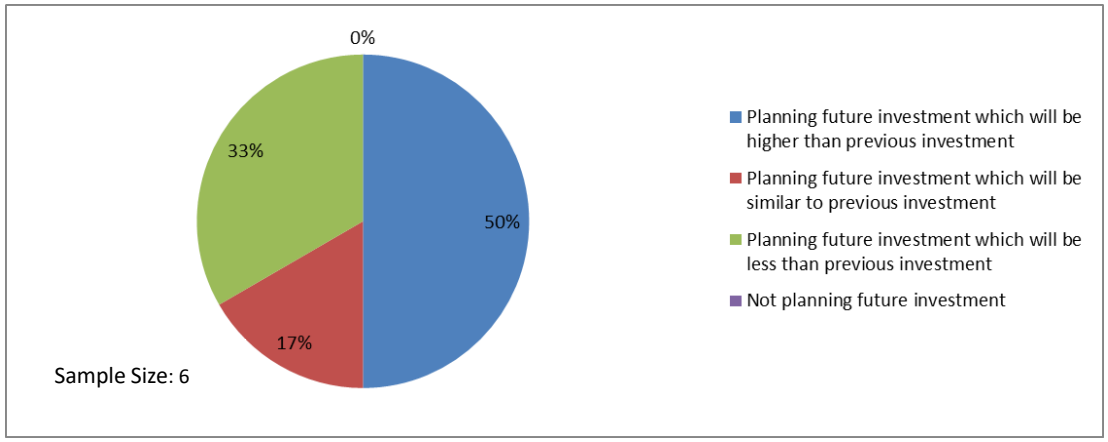
Question: Which environmental factor(s) does the Hong Kong subsidiary consider when making foreign direct investment decision? (Max 3 options)



Lastly, the future investment plan for OFDI from Hong Kong subsidiaries was asked and the results are shown in Figure 6.17; three out of six companies mentioned the value of OFDI will increase, while two companies will reduce investments, and one will keep the same level as before.

Figure 6.17: Further investment plans for outward foreign direct investment from Hong Kong subsidiaries

Question: What are the future investment plans for outward foreign direct investment from the Hong Kong subsidiary?



To sum up the information collected from all respondents, the Hong Kong subsidiaries of state-owned enterprises have a longer history and a larger operation scale in comparison to the subsidiaries owned by private enterprises, which has been nurtured by the regulations of Chinese OFDI in mainland China. Both companies are attracted by the financial markets and legal system in Hong Kong SAR, and they wish the subsidiaries in Hong Kong SAR can compensate for the unfavourable aspects of these two systems in the China business environment.

Among these two groups, the Hong Kong subsidiaries of state-owned enterprises have higher demands for accounting and finance business functions. In the FDI from Hong Kong SAR, including both onward journey and round tripping, the subsidiaries of state-owned enterprises have greater experience with onward FDI than the subsidiaries owned by private enterprises, which have the major objective to provide goods or services for the overseas markets and Chinese markets through setting up in Hong Kong SAR, this finding is partly aligned with Sutherland (2010).

From an overseas investment perspective, the differences of type 1 and type 4 companies are identified. Basically, the major reason for type 1 companies to set up subsidiaries in Hong Kong SAR is to address capital issues. However, type 4 companies have more diverse needs, and they set up in Hong Kong SAR for more comprehensive

reasons, covering finance and accounting, legal advisory, administration, and operations. When they consider the favourable factors in Hong Kong SAR, they deem financial and legal aspects equally important, and they mention human capital is one of their key considerations as well.

Part C: Additional findings from the annual reports of respondents

Since all respondents are listed companies, their annual reports provide supplementary information of their operations. Even though some listing companies are not incorporated in Hong Kong SAR, their major business headquarters are still in Hong Kong SAR and China.

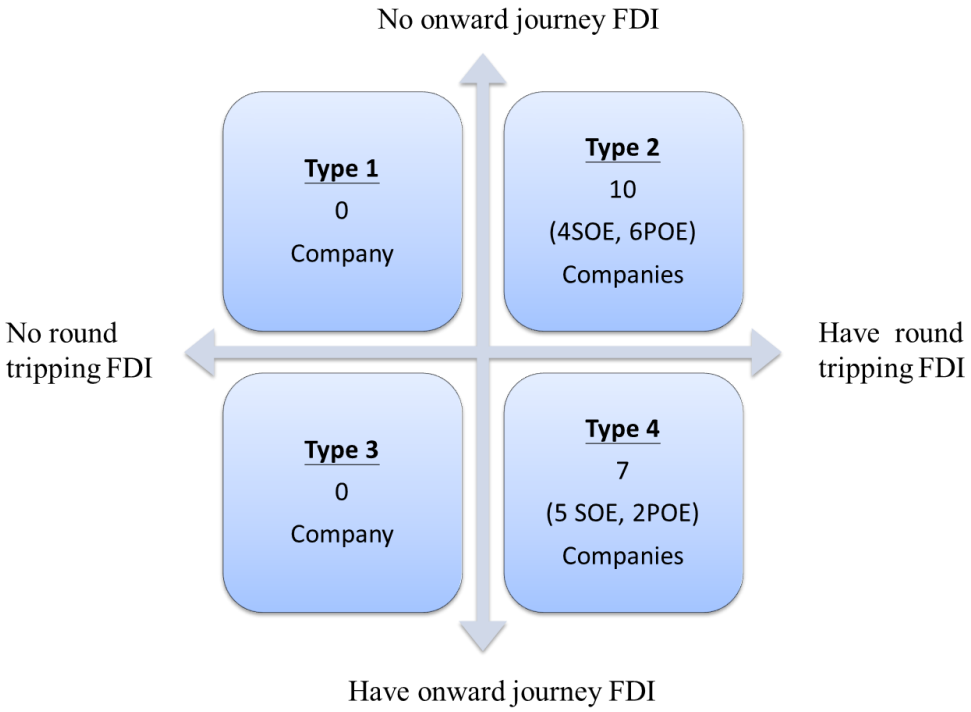
One core issue was found after reviewing the reports. The responses about investment activities collected from the questionnaires do not match with the investment activities shown in the annual reports. The annual reports show that all seventeen companies conduct round tripping investments.

The phenomenon is not easily explained; however, one possibility is caused by the complexity of FDI which has been pointed out by Xiao (2004). He mentioned that many listed subsidiaries in Hong Kong SAR use the capital injection from its parent company and the funds being raised from an IPO in Hong Kong SAR. This phenomenon, again,

would count as IFDI from Hong Kong SAR to China according to international practice since the procurement of projects in China by Hong Kong listed companies are usually more than the 10 percent threshold for an FDI investment. These activities might have been overlooked by the respondents in the questionnaires. Besides, there was one company incorporated in Hong Kong SAR that overlooked their overseas investments, and necessary adjustments in the survey results are made accordingly.

After making the adjustments, the classification of companies is shown in Figure 6.18, and the companies initially classified as type 1 have changed to type 2, which means they conduct round tripping investments from Hong Kong SAR to mainland China. In total, ten companies are classified as type 2 companies, and 7 companies are considered to be type 4 companies. In this case, the major reason for type 2 companies to set up subsidiaries in Hong Kong SAR is to address capital issues. For type 4 companies, there is no change after adding one more company, and setting up in Hong Kong SAR for them is still comprehensive. Unfortunately, neither type 1 nor type 3 companies are found among the companies in the study.

Figure 6.18: Revised classifications of respondent companies according to the matrix of round tripping and onward journey experience



6.9 Interview Findings of Hong Kong Subsidiaries of Chinese Enterprises

Despite the low response rate of the questionnaire, six out of the nine companies that were invested by stated owned enterprises accepted to conduct more in-depth interviews. After discussing with each company, five comprehensive interviews were organised; four interviews with H-share and red chip companies and one interview with a P-chip company were conducted. Table 6.2 provides consolidated corporate profiles and information on the Hong Kong operations of the five companies, and further details of each company are provided in Appendix 6.2.

There are two similarities among the five companies. Firstly, the subsidiaries in Hong Kong SAR do not focus on the local market, basically they have a regional headquarter set up which takes care of the Asia Pacific market, and three out of the five are global headquarters. Secondly, the main reason for setting up the operation was to exploit the advantages of the financial and legal systems in Hong Kong SAR.

Table 6.2: Summary information of the firms in the case study

	Company A	**Company B**	**Company C**	**Company D**	**Company E**
Operation Scale in HKSAR	Global headquarter	Global headquarter	Representative Office	Representative Office	Global headquarter
Nature of parent company	Beijing SOE	Central SOE	Central SOE	Central SOE	Private enterprise
Industry	Pharmaceutical	Machinery	Energy and utilities	Electronic	Energy and utilities
Year of Establishment in HKSAR	2004	1963	1999	-	2013
Year of listing in HKEx	2013	1990	1999	1999	2013
No. of employees in HK operation (as end 2013)	~400	~400	10	24	201
No. of employees	438	4,960	241	32,906	1,610
Sales Revenue (as end 2013)	HKD 613M (GBP 47.74M)	HKD 3,757M (GBP 292.51M)	HKD 23,355M (GBP 1,818.32M)	HKD 93,397M (GBP 7,271.64M)	HKD 3,284M (GBP 255.68M)
Classification of Investment Matrix	Type 4	Type 4	Type 4	Type 4	Type 4

Due to geographical concerns, the interviews with each company were conducted in the mode of an audio conference call. Each interview lasted for 40-50 minutes and was

conducted in Mandarin or Cantonese depending on the mother tongue of the interviewees. All interviews were recorded after granting the acceptance of the interviewees and the content was translated into English by a professional translator and then back translated from English into Chinese again by another translator. In the following, the findings are presented in two parts. Part A describes the results relevant to Chinese OFDI in Hong Kong SAR; part B explains the findings on OFDI of Chinese MNEs subsidiaries in Hong Kong SAR.

Part A: Findings of Chinese OFDI in Hong Kong SAR

In this part, the findings on the push factors in China and the pull factors in Hong Kong SAR collected in the interviews are described. Furthermore, the motivations of Chinese OFDI investing in Hong Kong SAR are explained.

Factors in China that push Chinese enterprises to invest in Hong Kong SAR

There are several forces pushing enterprises in mainland China to set up companies in Hong Kong SAR according to the responses. Firstly, the limited access to capital in mainland China is a key factor, which is a bottleneck for Chinese enterprises to operate and even survive. The capital market in mainland China is not well developed, and the stock markets in Shenzhen and Shanghai are not yet well established. Thus, listing in Hong Kong SAR for accessing capital for business operations is an alternative to access

capital, particularly in the 2000s. The stock market is not the only source for funds; Hong Kong SAR is the largest offshore RMB exchange centre, and Chinese enterprises borrow RMB directly from banks or issue RMB bonds in the Hong Kong bond market.

All of the companies invest in Hong Kong SAR in order to raise capital. By accessing capital in Hong Kong SAR the enterprises can avoid foreign exchange restrictions when they transfer money back to mainland China or overseas, and it also speeds up the OFDI process. Companies C and D clearly stated that most of their overseas transactions and contracts are finalised in their Hong Kong offices.

Secondly, the foreign exchange controls in mainland China have significant restrictions on daily operations for Chinese MNEs. In China, the foreign currency transactions and inter-company capital transfers must receive approval before execution, and the approval procedure may take a few days or, even weeks. According to companies B and C, the major obstacle of running a business in China is the foreign exchange controls which highly influence export businesses; therefore, the establishment of subsidiaries in Hong Kong SAR compensates for this constraint with a free flow of capital.

The third issue is the complicated procedures for conducing foreign trade and foreign direct investment. All import, export and investment activities must be approved by the

government, and the complexity of the process depends on the scale of the activities. Once the Chinese enterprises set up a subsidiary outside China, they are not bound by the China bureaucratic administration system, which means the investments from the subsidiary outside China can skip the complicated procedures.

Finally, the marketing assets are another concern. Many overseas customers have a negative view towards Chinese brands and companies, and setting up a subsidiary in Hong Kong SAR facilitates them to build up the MNEs image and international branding. For instance, company B has acquired and owns several leading brands of different machinery for textile dyeing and finishing, all of which are renowned brands in the textile industry globally. By executing a diversification strategy, company B provides a total solution in the range of pre-treatment, dyeing, after treatment, and wastewater treatment along the entire value chain.

Factors in Hong Kong SAR attracting Chinese OFDI

Among all factors mentioned by the interviewees, the international financial system and sophisticated legal system are the core reasons for setting up a subsidiary in Hong Kong SAR. With the international financial system, the companies can access different kinds of funding for daily operations, and they can transfer money to foreign countries easily from Hong Kong SAR. From a legal perspective, the foreign companies are quite familiar with the legal system in Hong Kong SAR as it is a common law system, and, therefore, many OFDI transactions are finalised in Hong Kong SAR instead of China.

The motivations of Chinese OFDI investing in Hong Kong SAR: Local operation, onward journey or round tripping

The China enterprises that invest in Hong Kong SAR have mixed motivations. As discussed in section 6.5, Chinese OFDI in Hong Kong SAR was divided into four types by the matrix, and insights regarding the key motivations of each type of company were gained based on the input from the interviews.

a) Market Seeking Motivation

Some of the Chinese OFDI select Hong Kong SAR as the destination and set up a local operation because of the local market, which is classified as type 1 investment. Thus, market seeking motivation encourages the firms to set up the subsidiary in Hong Kong SAR and develop their market presence.

Compared with other overseas markets, Hong Kong SAR is a small market in terms of size, but it is a good starting point for Chinese enterprises to enter the international markets. Many Chinese enterprises invest in Hong Kong SAR for brand building and product marketing, and to a certain extent, it becomes a platform for building up brand awareness in the global market. Additionally, many Chinese enterprises set up an overseas sales office in Hong Kong SAR to offer better customer services.

For instance, market seeking motivation is one of the motivations of company A. As a global headquarters for promoting and distributing the group's product range to the global market, company A has made many investments locally in Hong Kong SAR. It has 58 retail stores in Hong Kong SAR, including stores opened by the parent company. In 2013, 55.7 percent of the sales revenue came from the self-developed Chinese medicine, and the sales revenue growth rate in the Hong Kong market was 91.1 percent in 2013. Besides, company B also has significant sales revenue generated in Hong Kong SAR.

b) Efficiency Seeking Motivation

As efficiency seeking motivation investments aim to improve the efficiency of operation, the Chinese OFDI aims at avoiding institutional constraints and making use of the location advantage of Hong Kong SAR. This category includes 5 companies.

Even though the investment nature is not the same as a typical efficiency seeking investment, the intention of investing in Hong Kong SAR to take advantage of economic policies and market structures of Hong Kong SAR is for implementing the internationalisation at the lowest transaction cost, which matches with the definition of efficiency seeking investments.

Part B: Findings on OFDI of Chinese MNEs subsidiaries in Hong Kong SAR

In general, three phenomena are observed. Firstly, it is quite clear that a certain level of Chinese OFDI in Hong Kong SAR aims to extend the local market share, but the investment amount is relatively low. Secondly, for the Chinese OFDI with round tripping investments, the goal of their operations in Hong Kong SAR is to facilitate the business; the operations in Hong Kong SAR avoid the institutional constraints such as foreign exchange control, immature financial system and legal system, which improves the operation efficiency. Besides, with the support of the capital markets in Hong Kong SAR, the Chinese enterprises can relatively easily access funds. Thus, value added motivation is more suitable to explain these activities. Finally, no similarities among the interviewed companies conducting onward journey investments have been found; thus, the motivations of the firms are determined by the nature and strategy of each company. The motivations of the interviewed companies investing in Hong Kong SAR are summarised in Table 6.3.

Table 6.3: Type of investment and motivation of the five interviewed companies in Hong Kong SAR

Type of investment	FDI in HK as Ultimate Destination		Round Tripping FDI		Onward Journey FDI			
Motivation	Market Seeking	Other Motivations	Rent Seeking	Value Added	Market Seeking	Resource Seeking	Strategic Asset Seeking	Efficiency Seeking
Company A	X			X	X	X		
Company B	X			X			X	
Company C				X				X
Company D				X	X			
Company E				X	X		X	

Onward journey investment

From the sample, all companies in the interviews responded that they conducted onward-journey investments in the overseas markets, and their motivations are mixed, including market seeking, strategic asset seeking, and efficiency seeking. More details are described in the following.

a) Market seeking onward journey OFDI

As a global headquarters, companies A and D conduct typical market seeking investments for promoting and distributing their product range to the global market. Company A invests in eleven countries and markets, mainly in ASEAN counties. There are four retail locations in Macau and five in Singapore. Outside of ASEAN they have invested in Australia, Poland and the U.K. In the future, they plan to focus on the markets in Europe and New Zealand. Based on their official web-sites, there were over 100 retail outlets globally in the first quarter of 2014.

The reason for selecting Hong Kong SAR as the stepping stone for onward journey investments is mainly concerned with regional or global marketing strategies. Hong Kong consumers have different behaviour than mainland Chinese, and their taste and their decision-making process are more similar to overseas Chinese. For example, company E conducts market seeking OFDI, and the subsidiaries are wholly owned with 100 percent greenfield set up to fulfil institutional requirements of overseas projects. Certainly, the establishment of sales branches in Japan, Australia and Pakistan also aim at providing better customised solutions and customer services to their customers.

b) Strategic asset seeking onward journey OFDI

There are also strategic asset seeking onward journey OFDI. Among the interviewed companies, company B is a strategic asset seeker as its major investments focus on acquiring technology and branding. It has invested intensively in Germany, Austria and Switzerland with R&D, manufacturing and sales infrastructure. Before these activities, company B acquired a Swiss company in 2002, which is an expert in design and manufacture of yarn conditioning and heat setting equipment; additionally, it acquired two German companies in 2004 and 2006, which are manufacturers of airflow dyeing machines. Other than the above investments, company B also owns several subsidiaries in the British Virgin Islands.

Company E takes a similar approach like company B for acquiring technology, its parent company also invests intensively on solar panel manufacturers in the U.S., Sweden and Germany, and both companies own many patents for thin film power generation systems.

From the experience of companies B and E, M&As are the normal approach of onward journey investments for acquiring R&D, intellectual property, and local sales and distribution networks. Chinese MNEs utilise the subsidiaries in Hong Kong SAR to execute the M&A deals because of concerns regarding capital transfer and legal protection for both contractual parties.

c) Efficiency seeking onward journey OFDI

Efficiency seeking is another motivation for conducting onward journey investments, and the investments of company C are an example. The objective of onward journey investments of company C is to facilitate effectively the storage and logistic arrangements for the supply of oil, LNG and petrochemicals for the parent company. In order to provide enough supply for meeting the economic growth in China, company C has engaged in substantial investments of port facilities and shipbuilding, which provides the infrastructure they need to support their logistic network in order to guarantee smooth logistic flows for further development.

Round tripping investment

Hong Kong SAR facilitates round tripping investment, and China was a popular host country for investments from Chinese subsidiaries in Hong Kong SAR. According to the findings in the review of annual reports of Chinese based companies listed and incorporated in Hong Kong SAR, 54 out of 57 companies conducted foreign direct investment, and 74.17 percent stocks of approximately USD 129,956 million were invested in China. However, it is not appropriate to stereotype all of the investments as rent-seeking round tripping. Indeed, most of the investments should be considered as efficiency seeking round tripping, or round tripping for value added as identified by Xiao (2004).

In general, the round tripping investments enhance the efficiency of Chinese MNEs. Once the Chinese enterprises identify that the value added services are much greater than the transaction costs involved, round tripping may continue even if no obvious direct regulatory incentives exist for the round tripping.

From the information obtained in the annual reports and interviews, all five interviewed companies have investments in mainland China. The capital market in Hong Kong SAR provides funding for their investments in China for a variety of purposes, some of them invest in mainland China to secure the supply of materials and conduct research and

development, such as companies A, B, D and E. Meanwhile, company C invests in China for further expansion of its distribution network.

Besides, many investments in China from Hong Kong SAR are for supporting normal business purposes. For instance, company B indicated that Chinese enterprises set up operations in Hong Kong SAR for corporate finance, sales and marketing purposes, and they still rely on mainland China for manufacturing as well as research and development as mainland China still has the cost efficiency advantage. Thus, investing back to mainland China from Hong Kong SAR is a normal business practice, and normally the investment amount is significant in scale for fixed asset purchases.

6.10 Conclusion

The objective of this study is to explore the motivation of Chinese enterprises investing in Hong Kong SAR, and explore the phenomena of local operation, onward journey and round tripping in Hong Kong SAR. In this chapter, four research questions are designed for greater understanding about the Chinese OFDI in Hong Kong SAR.

In the study, the data accessibility is the major challenge. As such, the questionnaire with low response rate does not contribute insightful and representative findings. The questionnaire was distributed in two rounds by traditional postal services and through

an online survey; however, the above methods did not enhance the response rate much. Fortunately, several interviews with in-depth discussion with Chinese firms and InvestHK have been made, which provide much more qualitative findings for further analysis.

From the findings of the interview with InvestHK, the view of the government towards Chinese OFDI is learnt. The major institution constraints in China and the favourable location advantages of Hong Kong SAR perfectly match each other, and the needs for mature financial markets and legal systems are the major considerations of Chinese MNEs which are well provided by "one country, two systems" in Hong Kong SAR. Besides, there are six elements in Hong Kong SAR to attract Chinese OFDI. It is also learnt that round tripping and onward journey investments are very common, and Chinese MNEs utilize the competitive advantage in Hong Kong SAR to compensate for their internal competitive disadvantages of running international businesses. In the future, InvestHK believes Chinese OFDI flows in Hong Kong SAR will be increasing, and both the number of firms and values of Chinese OFDI in Hong Kong SAR should be rising.

From the questionnaires of Hong Kong subsidiaries of Chinese enterprises, the details of subsidiaries of Chinese enterprises are understood; however, the low response rate of

the survey creates a reliability concern with the findings. Based on the response of the questionnaire, two groups of companies are classified by ownership. It is found clearly that the subsidiaries of state owned companies have longer operation and listing histories than the subsidiaries of private companies. Other than that, the scope and scale of businesses of state owned companies are much larger, and the state owned companies normally run the full scale of operations in Hong Kong SAR. However, the major function for private enterprises are accounting and finance. Last but not the least, it was found the respondents about investment activities collected from the questionnaires do not match with the investment activities shown in the annual reports, and this might be caused by the complexity of project procurements of Chinese OFDI.

According to the interviews with subsidiaries of Chinese companies, Hong Kong SAR is a regional hub with a well-established financial market and legal system which provides unique value for Chinese enterprises. It does not only attract Chinese investors to Hong Kong SAR to utilise its financial facilities, professional services, and legal system in order to invest back in mainland China, but also, it is a stepping stone to move forward via onward journey investment. This finding strengthens the argument of the value added function of Hong Kong SAR, even for round tripping investments in mainland China. The interviewees emphasised that Chinese firms by undertaking round tripping they are not only conducting rent seeking and opportunity seeking activities,

many investments in Hong Kong SAR are for practical operations and value seeking. The investment is not only a normal business decision, but also a strategic move; it has significant impact on the competitiveness of the Chinese enterprises when they compete against global market players in different industries. Therefore, these OFDIs are classified as efficient seeking investments as they aim to reduce transaction costs of operation and internationalisation when they invest in Hong Kong SAR.

The results of this study provide insights for the four research questions and are the first to shed light on the role of Hong Kong SAR in the internationalisation of Chinese enterprises, which is an important part of Chinese OFDI. Hong Kong SAR is the largest host economy for Chinese OFDI, and it strategically offers great value to the Chinese MNEs under "one country, two systems". Furthermore, a self-developed conceptual matrix is built based on the round tripping and onward-journey investments. Four different types of companies are identified in the matrix, and it facilitates the researchers to observe, define and identify the strategy and behaviour of each type of Chinese MNEs; this matrix is highly applicable for other emerging countries as well.

Chapter 7 :

The Impact of Outward Foreign Direct Investment on the Chinese Economy from a Productivity Perspective

7.1 Introduction

The concept of the catching up strategy was proposed by Mathews (2006a, 2006b), which asserts that firms from emerging countries will learn and generate an outcome. In his argument, emerging countries including China do not have a firm specific ownership advantage in the home country, and OFDI, particularly strategic asset seeking OFDI, aims to equip the firm with technology and knowledge, which they transfer back to their home countries. If the model is valid, the home country as a whole, after investing in overseas markets, should have enhanced outcomes by learning in the long run via productivity improvement. The model is aligned with economic growth theories, which mention both technological change and knowledge are important contributors of economic growth from exogenous and endogenous perspectives (Solow, 1956, Romer, 1986).

The investigation of productivity impact on a home country is the evaluation of the effectiveness of the knowledge transfer generated by OFDI from host countries to home

countries, it does not only evaluate the impact of own firm, but also investigates any spillovers that are created from Chinese MNEs to local firms. In section 2.6, it is shown that the mechanism of knowledge transfer is quite complicated, rather like a "black box", and there are many determinants and external factors influencing the final result. The study of OFDI from host countries to home countries include two steps of knowledge flows, the first step is mentioned by Mudambi (2002) which entails the flows from subsidiaries to parent which is a direct effect. For the flow from subsidiaries to parent, Mudambi et al. (2014) proposed the idea of headquarter subsidiary relations, some subsidiaries are deeply embedded in the corporate network while others remain outsiders, and this can affect the ability-willingness of knowledge transfer from subsidiaries. Another flow is parent to location, and it is classified as spillovers in this study, and understanding of this knowledge flow is still very limited.

In this chapter, the objective is to examine the impact of OFDI in China, particularly from a productivity perspective. This chapter is organised as follows, after the introduction, section 7.2 outlines the hypotheses and research design to examine the Chinese OFDI impact on productivity. Section 7.3 presents the data and describes the data set reconstruction. Section 7.4 presents the empirical results and analysis of Chinese OFDI impact on productivity. Finally, analysis and discussion of findings are presented in section 7.5, followed by the conclusion in section 7.6.

7.2 Hypotheses and Research Design

The objective in this empirical study, therefore, is to examine the impact of OFDI on the home-country productivity in the Chinese economy at the industry level. The result could be an insightful reference point for governments, as well as the Chinese enterprises to review their internationalisation strategies and knowledge management approach. From a productivity perspective, as mentioned in the literature review in section 2.6, positive own firm effects are found within Chinese MNEs according to three empirical studies in China (Hsu, 2015, Cozza et al., 2015, Huang and Zhang, 2017); however, the subsidiaries to parent effect is only one part of the aggregate productivity enhancement process, and the knowledge transfer from parent to location was overlooked. In this study, the productivity influence or spillovers from Chinese MNEs to local firms are also considered. Thus, a macro view is taken and a model to investigate Chinese OFDI impact to overall productivity at the industrial level is developed.

Instead of taking a step by step moderate approach, the Chinese government encourages OFDI to grab resources directly because emerging countries like China with a large technology gap can catch up quickly by acquiring advanced technology, and positive spillovers are expected to be created. This proposition is supported by an empirical study of home country effect in India conducted by Pradhan (2008), and the same

argument can be applied in China. Thus, the main proposition in this study is developed below.

Main proposition: The increase of Chinese OFDI generates a positive impact on home country productivity in China.

The above main proposition is quite similar to the proposition designed by Buckley et al. (2002) when they tested the impact of IFDI on productivity at the industry level in China. The major difference is the nature of FDI. Buckley et al. (2002) studied IFDI instead of OFDI and they studied the firms in 191 sectors on the industry level with data from 1995.

In contrast to the objective of the study conducted by Buckley et al. (2002), the focus in this study is to evaluate the impact of Chinese OFDI in nineteen industries. Thus, IFDI is replaced by OFDI, and TFP instead of labour productivity is taken as a function of OFDI. Secondly, firm size, which is only suitable for a firm level study, is removed, and all other variables are kept the same except research and development investment as data of all sectors are not available.

A panel of nineteen industries cross-section data under the classification of the Chinese authority and time series data from 2003 to 2015 are pooled together. The nineteen

industries are categorised into three types including primary, secondary and tertiary sectors, which are the standard classification based on the National Bureau of Statistics of China (NBS). Details of the nineteen industries are listed in Appendix 7.1.

Furthermore, a time lag factor is considered, as it is expected that the indirect effect takes a certain time period to occur. Significant results were found in a three to four-year time lag in the previous studies of Li et al. (2017) and Cozza et al. (2015). Therefore, the model adopted in this study is designed as equation 7.1.

Equation 7.1: Function of the OFDI impact on productivity

$$LY_{i,\,t} = \alpha + \beta_1 LOFDI_{i,\,t-a} + \beta_2 LKL_{i,\,t-a} + \beta_3 LIFDI_{i,\,t-a} + \beta_4 LHC_{i,\,t-a} + e$$

Where i = 1,…, 19 represents each of the Chinese industrial sectors and t = 2003, …, 2015 indicates the time period and a = 0, 1 and 2.

Based on the theoretical work done in developed countries, the magnitudes of the complementary effect and substitution effect generate a different net impact to the local country. However, the case in emerging countries like China is different which was pointed out by Kokko (2006). The Chinese OFDI in emerging countries are dominated by resource seeking OFDI, which aims to help Chinese MNEs secure capital for future

development. Certainly, the substitution effect will be created by market seeking or efficiency seeking investments, but the proportion of these investments are not high in the case of Chinese OFDI. Meanwhile, the Chinese OFDI in developed countries are mainly strategic asset seeking, which facilitates Chinese MNEs to improve the knowhow and catch up in the technological gap, and the core competence of Chinese MNEs are strengthened in the long run. Based on the case of Chinese OFDI, it is estimated that the positive complementary effect should override the negative substitution effect; eventually a positive impact of OFDI on productivity would be generated for the Chinese economy. From an empirical perspective, the positive results from studies of Cozza et al. (2015), Hsu (2015), Huang and Zhang (2017) and Li et al. (2017) also support this view. Thus, the following hypothesis is developed.

Hypothesis 7.1: Chinese OFDI enhances home-country productivity.

Dunning et al. (2008) maintained that Chinese OFDI looked for new market opportunities and natural resources in the early stage, and recently more marketing and knowledge related activities exist which are encouraged by the government. In chapter 5, different motivations of Chinese OFDI in OECD countries were identified, and they might generate different impacts on the home country productivity. The strategic asset

seeking OFDI in the western countries, particularly in the U.S. and the E.U., is expected to speed up technology upgrade. Thus, a second hypothesis is developed.

Hypothesis 7.2: Strategic asset seeking Chinese OFDI in the U.S. and the E.U. countries enhances home-country productivity.

Additionally, an evaluation of the impact of Chinese OFDI in Hong Kong SAR on home-country productivity would be insightful. As discussed in Chapter 6, China enterprises invest intensively in the Hong Kong SAR with mixed motivations. Market seeking motivation encourages the firms to set up a subsidiary in Hong Kong SAR and develop their market presence. Meanwhile, Chinese OFDI with efficiency seeking motivation investments in Hong Kong SAR aims to access capital to finance the operations in China as well as access professional services for their internationalisation. Both ways should facilitate the improvement of efficiency, and the results would provide empirical insights to understand the value of off-shore financial centres and tax-havens such as Hong Kong SAR to Chinese OFDI.

Hypothesis 7.3: Chinese OFDI in Hong Kong SAR enhances home-country productivity.

When considering time as a matter of OFDI impact on home-country productivity, the impact of OFDI lags by one year. For the dependent variable, the measurement unit of the productivity is TFP, and the TFP index indicates the level of efficiency and intensity of input utilization in the production, which is different from labour productivity in the original model, as TFP also considers the improvement of capital utilization.

Furthermore, control variables including KL, IFDI, and HC show significant correlation with productivity per labour (Buckley et al., 2002), so these variables are relevant to this study at the industry level, and they are kept. Firstly, capital intensity facilitates positive spillovers, and capital intensive industries have higher technology capability as well as absorptive capability. Moreover, an empirical study has shown that capital intensity determined by the capital labour ratio was positively correlated with productivity of firms in the United Kingdom (Salomon and Jin, 2008). As previously stated, capital intensive industries have faster spillover effects than labour intensive industries on the productivity of domestic firms; thus, the positive effect of spillovers is larger than labour intensive industries (Caves, 1974), and it is believed that the increase of capital intensity enhances the home-country productivity.

From the IFDI perspective, previous studies showed that FDI generates potential gain in the local economy. Three potential gains can be captured from FDI according to

Caves (1974), which are allocative efficiency, technical efficiency and technology transfer. All of the above effects that are generated from FDI are captured by TFP. Based on these concepts and the previous findings of productivity spillover in China and OECD countries (Buckley, 2002, Li et al., 2001, Fu, 2004), an increase of IFDI should enhance the home-country productivity.

Finally, human capital is an important input of technology capability of a country (Romer, 1990). It covers the collective attitudes, skills and abilities that people contribute to organisational performance and productivity. The improvement of these factors strengthens the innovation capability and narrows down the technology gap compared with the host country. However, human capital did not affect the output or economic growth positively when Benhabib and Spiegel (1994) incorporated human capital into the Cobb-Douglas production function. They concluded that human capital influences growth through its effect on TFP instead of its effect on the output. Miller and Upadhyay (2000) tested the effect of human capital on TFP, and they eventually concluded that human capital generally contributes positively to TFP.

Human capital affects growth through two mechanisms. Firstly, it influences the rate of domestically produced technological innovation. Secondly, human capital affects the adoption speed of technology from aboard (Benhabib and Spiegel, 1994). According to

research findings in Russia, the FDI spillover effect positively depends on educational levels (Ponomareva, 2000). Another research conducted in Turkey showed the coefficient of labour quality to productivity is 0.56 in significance to explain the growth of productivity (Aslanoğlu, 2000). Research findings demonstrate that labour quality is significant and positively related to the productivity spillover effect in China (Li et al., 2001, Buckley et al., 2002), and it is expected that the increase of human capital enhances the home-country productivity.

Meanwhile, the structure identification of the function in this section is a critical decision which affects the estimation result of the FDI spillover effect. It has been argued that specifications of the model and variables are critical in this type of empirical study. From the experience of Vahter and Masso (2006), the result of spillovers of OFDI are quite diverse for different specifications of a model and the spillover variables. In their panel studies in Estonia, they highlighted three major difficulties in the analysis of spillovers. Firstly, there should be an accounting for endogeneity of production inputs that would allow for greater heterogeneity of production technologies. Secondly, the choice of spillover variable may affect the results, and they pointed out the use of the sales-based measure may be less beneficial than the others because of an internal transfer price issue. Thirdly, robustness checks are needed to identify the longer and shorter time differences, which might cause important further information about the

existence and strength of spillovers. Based on the literature, OLS is the most common identifications in previous studies, but the OLS estimation result with panel data may create some bias. Griliches and Mairesse (1995) noted that the OLS approach has the problem of simultaneity, and they proposed the log first differences (growth rate) approach to solve the problem.

For the model design, the log first differencing procedure eliminates the time effect on variables. Equation 7.2 shows the productivity spillovers regression function with the log first differences approach, and the new equations aim to avoid heteroskedasticity and autocorrelation statistical problems in the analysis.

Equation 7.2: Log first differences function of the OFDI impact on productivity

$$\Delta LY_{i,t} = \alpha + \beta_1 \Delta LOFDI_{i,t-a} + \beta_2 \Delta LKL_{i,t-a} + \beta_3 \Delta LIFDI_{i,t-a} + \beta_4 \Delta LHC_{i,t-a} + e$$

Where i= 1,…, 19 represents each of the Chinese industrial sectors and t = 2003, …, 2015 indicates the time period and a = 0, 1 and 2.

In the above equations, $\Delta X_t = X_t - X_{t-1}$ for variable X and log first differences approach has been adopted in previous productivity research. The change allows more reliable inference of statistical significance of the input variables and all of the estimate results

are statistically significant (Benhabib and Spiegel, 1994, Xu and Wang, 2000, Graham and Wada, 2001, Damijan et al., 2008, Sasidharan, 2006, Kosteas, 2008). Meanwhile, the log first differences approach is also common in TFP studies; it has been used to test the spillover effect of IFDI, and both results are significant (Xu and Wang, 2000, Altomonte and Pennings, 2005, Altomonte and Pennings, 2007).

7.3 Data

After building up the model, the home country effect on productivity is studied at the industry level by taking panel data. Time series data from 2003 to 2015 were collected; and nineteen industries were identified based on the China definition. Raw data of the Chinese economy was obtained from the China Industrial Economic Statistics Yearbook, and the Annual Statistical Bulletin of China's Outward Foreign Direct Investment. These two statistical publications are managed by the National Bureau of Statistics of China. The following describes the variables and measurement units which are available in the secondary source, and further explanation of the estimation method of TFP which is not available. Details of the variables and measurement units for the empirical productivity study are described in table 7.1.

Table 7.1: Variables and measurement units of the empirical productivity study

Variable	Measurement Unit	Short Form	Expect Sign	Source of Data
Productivity	Labour Productivity (Value added output/labour)	Y/L	N/A	China Industrial Economic Statistics Yearbook
	TFP under CRS	TFP CRS	N/A	Calculated in the study
	TFP under VRS	TFP VRS	N/A	Calculated in the study
	TFP under growth accounting	TFP GA	N/A	Calculated in the study
OFDI	Real Aggregate OFDI flows	OFDI	+	Annual Statistical Bulletin of China's Outward Foreign Direct Investment
	Real OFDI flows in the U.S. and E.U.	OFDI US	+	
	Real OFDI flows in Hong Kong SAR	OFDI HK	+	
IFDI	Real IFDI flows in China	IFDI	+	China Industrial Economic Statistics Yearbook
Human Capital	Annual salary of labour	HC	+	China Industrial Economic Statistics Yearbook
Capital Intensity	Estimate Capital/ Estimate Labour	K/L	+	China Industrial Economic Statistics Yearbook

All data used in this empirical study are in real value terms, and all of the figures are transformed into constant prices (base year 2003) and with a constant exchange rate (base year 2003) according to equation 7.3. For instance, obtaining OFDI data in real value terms means removing the inflation from the nominal value terms. Also, the influence of exchange rate was removed from the data, and annual data of OFDI flows in host countries in real value terms were then calculated by applying the formula in equation 7.3. The GDP deflator of China and the exchange rate of the currencies

between China and the host country in the formula were collected from the data of the World Bank and International Monetary Fund.

Equation 7.3: Real value of variables estimation

Real value of OFDI flows = (Nominal value of OFDI flows / GDP deflator of China) x Exchange Rate in 2003 / Current Exchange Rate x 100

However, one variable, TFP, is not obtainable from official statistics, and it is normally the unit to measure productivity change, so the calculation for TFP is needed. Details about TFP and the calculation for TFP are described below.

The TFP concept originates from the pioneering works of Solow's growth framework (1956), and the Solow residual of an estimated Cobb-Douglas production function is the common and conventional method to calculate TFP. However, Beveren (2012) mentioned there are several methodological issues that emerge when TFP is estimated using traditional econometric methods at the firm level. The literature reveals an issue of endogeneity of input choice or simultaneity bias, endogeneity of attrition or selection bias, omitted price bias, and an issue of multi-product firms. However, the econometric method is still the most common way and the World Bank (2000) asserts the

econometric approach has benefits, given the appropriate data and instrumental variable techniques, and it is possible to calculate estimates of TFP growth.

In order to address the instrumental variables techniques, Beveren (2012) summarised four TFP estimation algorithms, which are 1) fixed effects, 2) instrumental variables and GMM, and 3) semi-parametric estimator, and these estimators might address the shortcoming of traditional methods. Using the above mentioned estimators and traditional OLS, the differences in TFP estimation are very small, and it is found that the simple correlations between the different TFP measures generally amount to more than 0.80 and even to more than 0.95. Given the high correlations, the results basically are identical among the different estimators. Thus, in this study, the estimator of fixed effect and AR(1) components are adapted.

In this study, two approaches are used for the TFP calculation. Other than the conventional econometric approach, the growth accounting approach has been used and previously considered in the literature as an alternative approach (Ganev, 2005, Baier et al., 2006, Li, 2009). By using these different methods, the study aims to ensure the robustness of the TFP estimations.

Growth accounting approach

In this study, the growth accounting approach is used to measure the TFP, and uses the approach of Li (2009), who estimated the China TFP by region with the growth accounting approach.

It is noted that the difference between the log output and the weight average login inputs is log TFP. The relationship between output and input of capital stock and labour stock in the Cobb-Douglas production function can be calculated with equation 7.4.

Equation 7.4: Cobb-Douglas production function

$$Y_t = A_t K_t^{\alpha} L_t^{\beta}$$

Where Y_t is a function of the total factor productivity (A_t), physical capital (K_t) and labour (L_t) at time t. Under the assumption of constant return to scale (CRS), the sum of α and β is equal to 1 and the logs of the production function are taken, thus equation 7.5 is formed.

Equation 7.5: Cobb-Douglas production function with logarithms

$$log\ (Y_t) = log\ (A_t) + \alpha\ log\ (K_t) + (1-\alpha)\ log\ (L_t)$$

The shares of labour (1-α) can be estimated by the share of total income received by the number of employed persons over a period of time. This is calculated as the ratio of the income of employees to the gross output in each industry in the sample. By taking the log differences, the growth rate of output, growth rate of capital stock and growth rate of labour can be identified, and finally the growth of TFP is also identified.

Conventional econometric approach

In a conventional econometric approach, capital (K) and labour (L) are the elements that define gross value added output (Y) in the Cobb-Douglas production function. The coefficient of capital (α) and coefficient of labour (β) can be identified by using the recalculated input data. Four conventional assumptions must be held in the TFP econometric estimation: 1) the form of production function is known; 2) there is optimizing behaviour on the part of firms; 3) there is neutral technical change; and 4) the constant returns to scale (CRS) hypothesis are maintained.

In the CRS hypothesis, the sum of the coefficients of the variables except the constant term is equal to 1. This means with the coefficient of capital (α), and obtaining β by 1-α, and then TFP growth can be estimated, which is the residual of the production formula by subtracting the capital and labour inputs from the gross value added output.

Based on the above Cobb-Douglas production function, while taking logarithms and adding an error term give equation 7.6:

Equation 7.6: Cobb-Douglas production function, taking logarithms

$$ln\ Y = c + \alpha\ ln\ K + \beta\ ln\ L + u$$

In equation 7.6, c refers to ln A which is a constant, and α, β coefficients are the elasticities of capital and labour. Under the assumption of CRS, sum of α and β is equal to 1. Next equation 7.7 is created.

Equation 7.7: Production function under the CRS

$$ln\ Y - ln\ L = c + \alpha\ (ln\ K - ln\ L) + u$$

With the coefficient of capital (α), and then obtaining β by 1-α, log TFP which is the residual of the production formula by subtracting the capital and labour inputs from the gross value added output can be estimated with equation 7.7.

There is also an argument that constant returns to scale is not valid because the percentage change in output is not always the same as the percentage change in inputs. In previous studies, Ozyurt (2007) and Chow and Li (2002), other than estimating the

coefficient of inputs by constant return to scale, they also made the estimation by variable return to scale, and a significant difference of findings were found. In this case, there are two sets of coefficient of labour and capital for further TFP estimation based on the equations 7.6 and 7.7 with variable return to scale and constant return to scale.

Furthermore, there are nineteen industries including primary, secondary and tertiary sectors in the sample. Based on the nature of the industries, the production input is different. Thus, the industries are separated into two groups. The first group covers primary and secondary industries; thus five industries are grouped together. The second group covers all tertiary industries, and twelve industries are included. The coefficient of each group then is estimated.

Recalculation of inputs and outputs in production function

A data problem combined with the unavailability of data make the data collection of China figures more difficult because using official data of input and output from the National Bureau of Statistics of China directly is not workable for researching, particularly in a productivity study. Chow (2006) has indicated that some Chinese official statistics are not reliable and they do not comply with international standards. Moreover, Chinese statistics for capital input uses a different system than the suggested system by OECD. Even though the National Bureau of Statistics of China (NBS) has

switched to the System of National Accounts and has improved its national accounts through surveys and censuses, some fundamental concepts are still influenced by the old Material Product System (MPS) according to Wu (2007).

To work on the analysis and in particular for testing the productivity, a new data set is needed and the data should be in line with the guidelines in the OECD manual, which is a prerequisite for making accurate analysis of China's industrial productivity. In this research, the individual industry input and output data for the production function analysis of Chinese industrial sectors in 2003-2015 are reconstructed. Factors for price level and the depreciation rate will be taken into account in the inputs and outputs to construct the data set in line with international standards. Moreover, data for capital stock and the output in terms of gross value added are recalculated before the TFP is estimated.

From an output perspective, the nominal gross value added (GVA) by industry is the output value used in the research. GVA is a measure of output by imposing a separability assumption on the production function for each sector according to Jorgenson (1991). Thus, the real output index of each individual industry from the official statistics yearbook are obtained. However, the raw data in the test is not acceptable because official output statistics shown in the China Industrial Economic Statistics Yearbooks

had been found to have a problem of upward bias hypotheses and they overstated the real output growth without considering the factor of change in price level (Wu, 2000, Young, 2000).

Price indices used to deflate current-price series of outputs plays a major role in productivity measurements according to the OECD Measuring Productivity Manual. To obtain the GVA expressed in constant prices, a producer price index (PPI), which is the best measurement in official statistics, is used to deflate GVA to obtain closer real output data.

In the data for inputs, for any given type of asset, there is a flow of productive services from the cumulative stock of the past investments. This flow of productive services is called capital services of an asset type, and it is the appropriate measure of capital input for production and productivity analysis according to the OECD manual.

A problem with official statistics occurs as the capital input mixes together the new buildings, equipment, machinery and the existing capital stock values at the acquisition prices which do not follow the international national accounting requirements. Wu (2008a) particularly highlighted the problem with the capital stock data on

"accumulation" or "original value" of fixed assets. Furthermore, inaccurate valuations and improper coverage of capital stocks are other problems indicated by Wu (2007).

To avoid these data problems, most of the researchers like Chow and Li (2002), Wu (2007) and Wu (2008a) came up with different capital stock input by using their own calculations. In this research, both Perpetual Inventory Method (PIM) and growth rate approach are used to reconstruct the capital stocks data.

Firstly, the PIM concept aims to estimate the value of capital stock and was introduced by Goldsmith in 1951; this concept is widely used in previous studies which estimate the capital stocks in China (Ozyurt, 2007, Zhang, 2008). The value of capital stock is estimated from the gross investment in each year and adding the net investment data of the current year to the capital stock of the previous year after deducting the depreciation value, thus, the estimation is designed in equation 7.8.

Equation 7.8: Equation for estimating capital stock

$$K_t = (1-d)\, K_{t-1} + I_t$$

K is the real value of capital stock in year t, I refers to net investment or real value of incremental capital stock in year t and d is the depreciation rate. Net investment of the

current year is the sum of the investments in new buildings and investments in equipment and machinery. The raw data can be obtained from the China Industrial Economic Statistics Yearbook.

The China official depreciation rate, which is in a range from 4.1 to 4.6 percent, is too low compared with international standards in emerging countries. Wu (2008b) summarised the different rates of depreciation in previous studies, and the lowest rate was 3.6 percent and the highest rate was 17 percent. According to Ozyurt (2007), the rate of 7 percent is in line with most previous studies and it is more reasonable than the 4 percent used by Zheng and Hu (2006). Hence 7 percent is set as the annual constant depreciation rate in this study.

Secondly, a "growth rate approach" is adopted to construct the initial value of capital stock in the base year, i.e. 1995. Under this approach, it is assumed that the function of investment is to replace depreciation of old capital and create new capital to maintain growth (Harberger, 1978). The approach begins with the assumption that if the capital-output ratio is constant in a given period, the capital and output growth rates are equal during that period (Iradian, 2007). The net investment (I) with the average growth rate of incremental capital stock (r) and depreciation rate (d) are identified for calculation shown in equation 7.9.

Equation 7.9: Equation for estimating capital stock in the growth rate approach

$$K_t = I_t / (r + d)$$

In practice, the average growth rate of incremental capital stock is substituted by the average growth rate of real GDP in China, and the average growth rate of GDP from 1990 to 2000 is 10.6 percent according to the World Bank (2004). Wu (2009) mentioned the main advantage of this approach is its simplicity among different approaches.

Besides, the capital inputs, labour remains the single most important input for many production processes. Schreyer (2001) indicated labour input should consider the time, effort and skills of the work forces in OECD, and Jorgenson (1987) has tackled the issue of quantitative and qualitative labour input for productivity measurements in which to construct a more accurate indication of the contribution of labour to production. Therefore, both quantitative and qualitative aspects of labour need to be considered in order to measure accurate labour input. However, due to a data problem, the total number of working hours is the most practical and appropriate measurement of labour input according to the OECD Measuring Productivity Manual (2002). The number of headcounts multiplied by the number of working hours per week is the only raw data

for measuring labour input because there is no regular and systematic survey to collect the working hours in Chinese industries.

After the recalculation of raw data, a new set of data with real values is estimated, and table 7.2 and table 7.3 show the statistics of the variables in all models.

Table 7.2: Variable statistics in the productivity function

	Output	Capital	Labour
Mean	27,760.66	67,848.71	851.58
Median	16,993.48	21,398.28	263.13
Max	213,530.90	766,520.80	6,376.03
Min	1,227.93	864.39	40.55
Std Dev.	36,547.84	120,457.40	1,367.98

Table 7.3: Variable statistics in the function of the OFDI impact on productivity

	LOG TFP CRS	LOG TFP VRS	Employment	OFDI	OFDI from HK	OFI from US& EU	Human Capital	IFDI Flows
Mean	0.79	1.14	4094.14	5004.25	2939.75	511.19	46362.68	6075.05
Median	0.78	1.56	1265.07	1624.89	519.95	56.34	42952.41	1740.73
Max	1.57	2.47	30654.00	36925.37	36361.53	8744.86	113191.20	48875.45
Min	0.00	0.00	194.93	0.00	0.00	0.00	11860.75	0.01
Std Dev.	0.38	0.86	6576.81	7731.50	5572.06	1204.18	20100.08	11434.58

By using the above methods, both the data for output and capital stocks are estimated. Based on the production function, the coefficient of labour and the coefficient of capital are found by running econometric models. In previous literature, there were different findings, for instance Chow and Li (2002) showed the output elasticity of capital was 0.6284 and labour coefficient was 0.3716. Ozyurt (2007) found the output elasticity of capital was 0.77 and labour coefficient was 0.29 under OLS, and the elasticity of capital

was 0.79 and labour coefficient was 0.26 under AR(1). A similar method will be implemented in this study in order to estimate the TFP of the nineteen sectors.

7.4 Analysis of the Impact of Chinese OFDI on Productivity

In this section, the result of the production function and the result of the OFDI impact on productivity are discussed. In the model, TFP is the dependent variable, thus, the result of the production function is reviewed first, which is a prerequisite to calculate the TFP of each industry in China.

Coefficient of production function

In the model, OLS was used to estimate the level of the Cobb-Douglas production function, and the estimation was based on the estimated output and capital stock calculated by the average growth rate measured by the World Bank from 1990 to 2000. In the model fitness perspective, the correlation coefficients among output, capital and labour are far less than 0.8, which is an indicator for determining a problem of serious pairwise collinearity. Table 7.4 presents the correlation coefficients.

Table 7.4: The correlation coefficients among output, capital and labour

	Output	Labour	Capital
Output	1	0.7593	0.4829
Labour	0.7593	1	0.1699
Capital	0.4829	0.1699	1

The White heteroskedasticity test was conducted to test the heteroskedasticity of the residuals. The null hypotheses of homoskedasticity of residuals cannot be rejected at the 5 percent level, which indicates there is no heteroskedasticity problem in both results. Furthermore, the D-W statistics test result is under the range of 2.178 and 2.360 after employing the AR(1) method, which indicates that there are no serial correlations issues in the error term.

From the result of the regression model, primary and secondary industries in equation 7.6 under the assumption of VRS were found for output elasticity of capital at 0.483 and coefficient of labour at 0.812. For tertiary industries, output elasticity of capital was 0.420 and the coefficient of labour was 0.277.

When CRS is applied, testing of equation 7.7 shows that the coefficient of capital of primary and secondary industries was 0.436 and the coefficient of labour was 0.564. Meanwhile, the coefficient of capital in tertiary industries was 0.491 and labour coefficient was 0.509. Table 7.5 shows the estimation results of a Cobb-Douglas production function.

Table 7.5: Results of production function estimation

	Primary and Secondary Industries	Primary and Secondary Industries	Tertiary Industries	Tertiary Industries
	Variable return to scale	Constant return to scale	Variable return to scale	Constant return to scale
log Capital	0.4830***	0.4358***	0.4200***	0.4912***
	(11.5280)	(8.4363)	(5.4815)	(11.2332)
log Labour #	0.8121***	0.5642	0.2771***	0.5088
	(4.8965)		(2.9430)	
AR(1)	0.5391***	0.6795***	0.8243***	0.7650***
	(0.1473)	(7.0781)	(16.1331)	(17.0262)
D-W Test	2.1784	2.2335	2.3554	2.3606
Ad R^2	0.9934	0.9935	0.9919	0.9948
N	55	55	121	121

Notes: Figures in parentheses are t statistics (one-tailed test); *, **, and *** denote significance at the 10%, 5% and 1% levels respectively.

#shows coefficient of labour, and significant level is available under the variable returns of scale. Meanwhile it is derived by 1-(a) under the constant returns of scale and t-test cannot be conducted to test the significance level.

After obtaining the results of the coefficient of labour and coefficient of capital, and input to the Cobb-Douglas production function, the TFP of nineteen industries can be estimated by the Solow residual method. To be more specific, the difference between the log output and the weight average log inputs is the log TFP.

To ensure the robustness of the TFP estimation in this study, correlation analysis was conducted among the TFP growth estimated by the assumption of CRS, VRS, and the growth accounting approach. It was found that the TFP growth estimated by the econometric model has a very high correlation, i.e. 0.95. However, the correlation

between TFP estimated by econometric model and growth accounting approach was relatively low. The correlation in the whole sample group was 0.75 and 0.63 under the estimation of CRS and VRS respectively. It was found that the low correlation was caused by a data missing issue in two industries i.e. services to households and other services and culture, sports and entertainment. If these two industries are removed from the sample, the correlation is more than 0.85, and the details are shown in table 7.6.

Table 7.6: The correlation coefficients among TFP estimated by different methods

	TFP Growth Accounting	TFP CRS	TFP VRS
TFP Growth Accounting	1	0.8809	0.8563
TFP CRS	0.8809	1	0.9680
TFP VRS	0.8563	0.9680	1

Remark: services to households and other services and culture, sports and entertainment are removed in the dataset

Testing the impact of Chinese OFDI on productivity by the growth accounting approach

Three regression tests, 7.1 to 7.3, aim to test the Chinese OFDI impact on TFP, which is estimated by the growth accounting approach. All regression tests are estimated by the AR(1) method for better estimation of standard errors and the results are shown in Table 7.7.

Regressions 7.1. and 7.2 evaluate the overall OFDI impact on TFP estimated by the growth accounting approach. Regression 7.1 does not find any significant result, however regression 7.2 evaluates the overall OFDI impact on TFP estimated by the

growth accounting approach. It successfully finds a positive and significant result with one year time lag at the five percent level of significance. The results indicate that one percent increase in Chinese OFDI contributes 0.0110 percent of TFP growth after one year. Meanwhile, regressions 7.3 and 7.4 evaluate the impact of Chinese OFDI in the U.S. and the E.U. and Chinese OFDI in Hong Kong SAR on TFP growth. No significant findings were found in these tests.

For control variables, such as capital intensity, the TFP growth increases by 1.601 percent when capital intensity increases by one percent at the same year according to regression 7.2. Positive and significant results were found in regression tests 7.3 and 7.4, but the coefficient is less than the regression in 7.3. All of the results support hypothesis 7.2.

Table 7.7: Estimated coefficients of OFDI impact on TFP function estimated by the growth accounting approach

Regression No.	7.1	7.2	7.3	7.4
Dependent Variable		Δlog TFP under growth accounting approach		
$\Delta\log OFDI_{t}$	0.0005			
	(0.0807)			
$\Delta\log OFDI_{t-1}$		0.0110**		
		(1.7663)		
$\Delta\log OFDI\ US\&EU_{t-1}$			0.0020	
			(0.9117)	
$\Delta\log OFDI\ HK_{t-1}$				-0.0035
				(-1.2334)
$\Delta\log IFDI_{t}$	-0.0024			
	(-0.0650)			
$\Delta\log IFDI_{t-1}$		-0.0172	-0.0004	0.0029
		(-0.4502)	(-0.0156)	(0.1205)
$\Delta\log HC_{t}$	2.4653***	2.1082***	1.3341***	1.4335***
	(4.9653)	(4.1383)	(3.1860)	(3.4067)
$\Delta\log K/L_{t}$	1.4608***	1.6015***	0.6215***	0.6401***
	(14.2284)	(14.5019)	(4.4367)	(4.6086)
AR(1)	0.0675	0.0635	-0.0243	-0.0375
	(0.8543)	(0.7722)	(-0.6005)	(-0.8621)
D-W Test	2.1483	2.1784	2.6420	2.6400
Ad R^2	0.5704	0.6051	0.5447	0.5500
N	182	164	87	87

Notes: Figures in parentheses are t statistics (one-tailed test); *, **, and *** denote significance at the 10%, 5% and 1% levels respectively.

Lastly, regression tests also show human capital as significantly and positively correlated with the TFP growth. In regression 7.2, it was found that one percent growth in human capital contributes 2.1082 percent of TFP growth, meanwhile regressions 7.3

and 7.4 are also positive and significant. However, no significant result was found in IFDI from all regression tests.

Testing the impact of Chinese OFDI on productivity by CRS and VRS

With the TFP data estimated, the impact of OFDI on productivity can be estimated. The model is tested under the log first difference approach. In the model fitness perspective, the correlation coefficients among the variables are far less than 0.8 which indicates there is no serious pairwise collinearity and surprisingly, the correlation coefficients between OFDI and IFDI is 0.2249. Table 7.8 presents the correlation coefficients respectively.

Table 7.8: Correlation coefficients among the variables

	TFP CRS	TFP VRS	OFDI	IFDI	HC
TFP CRS	1	0.3182	0.3024	0.1122	0.2900
TFP VRS	0.3182	1	0.1195	-0.2548	0.3354
OFDI	0.3024	0.1195	1	0.2249	0.4014
IFDI	0.1122	-0.2548	0.2249	1	0.0283
HC	0.2900	0.3354	0.4014	0.0283	1

Besides, a Hausman test was conducted in each regression, and the results show that the independence hypothesis should be rejected; thus, the fixed effects model is efficient compared with the random effect model. Besides, the regression in the random effect model has issues of positive serial correlation.

In the productivity study result, the three regressions that aim to test the Chinese OFDI impact on productivity are made. In table 7.9, regression tests 7.5 to 7.7 aim to test the Chinese OFDI impact on TFP, which are estimated under the assumption of CRS. And regressions 7.8 to 7.10 do the same, which are estimated under the assumption of VRS. All regressions are tested under the cross-section fixed effect and first log differencing approach by the AR(1) method for better estimation of standard errors.

Table 7.9: Estimated coefficients of OFDI impact on TFP function estimated under the assumption of CRS and VRS

Regression No.	7.5	7.6	7.7	7.8	7.9	7.10
Dependent Variable	Δlog TFP under CRS			Δlog TFP under VRS		
$\Delta\log OFDI_{t-1}$	0.0018*			0.0016*		
	(1.6012)			(1.4256)		
$\Delta\log OFDI\ US\ \&\ EU_{t-1}$		0.0005			0.0005	
		(0.7110)			(0.6181)	
$\Delta\log OFDI\ HK_{t-1}$			-0.0009			-0.0005
			(-0.9676)			(-0.6017)
$\Delta\log IFDI_{t-1}$	0.0019	-0.0023	-0.0011	0.0009	-0.0017	-0.0007
	(0.2789)	(-0.2657)	(-0.1230)	(0.1364)	(-0.2042)	(-0.0876)
$\Delta\log HC_t$	0.5515***	0.5107***	0.5332***	0.5347***	0.4496***	0.4642***
	(5.9657)	(3.2982)	(3.3581)	(6.1496)	(3.0130)	(3.0458)
$\Delta\log K/L_t$	0.2009***	0.2407***	0.2433***	0.1096***	0.1757***	0.1780***
	(9.8249)	(4.6099)	(4.6751)	(5.6230)	(3.3954)	(3.4430)
AR(1)	0.0591	-0.0055	0.0045	-0.0398	-0.0164	-0.0106
	(0.6578)	(-0.0371)	(0.0300)	(-0.4390)	(-0.1163)	(-0.0748)
D-W Test	2.2193	2.1740	2.2045	2.1698	2.1997	2.2085
R^2	0.5710	0.4699	0.4736	0.4449	0.4071	0.4070
N	164	87	87	164	87	87

Notes: Figures in parentheses are t statistics (one-tailed test); *, **, and *** denote significance at the 10%, 5% and 1% levels respectively.

For TFP estimation, regression 7.5 estimates the impact of Chinese OFDI on TFP under CRS. A positive and significant coefficient of Chinese OFDI with one year time lag was found at the ten percent level of significance; one percent increase in Chinese OFDI contributes 0.0018 percent TFP growth. Even though the result verifies that Chinese OFDI has positive impact to TFP after one year, the findings support hypothesis 7.1. Meanwhile, regression 7.8 estimates the impact of Chinese OFDI on TFP under VRS. It shows that Chinese OFDI with a one year time lag positively contributes to the growth of TFP estimated under VRS at the one percent level of significance. This indicates that one percent increase in Chinese OFDI contributes 0.0016 percent of TFP growth after one year and it supports hypothesis 7.1.

Furthermore, the regression tests 7.6 and 7.7 were designed to further investigate the productivity impact under CRS based on the host country of Chinese OFDI. Similarly, the regression tests 7.9 and 7.10 estimate the impact of Chinese OFDI on TFP under VRS; Chinese OFDI in the U.S. and the E.U. and Chinese OFDI in Hong Kong SAR were tested separately. Unfortunately, all coefficient findings are insignificant; thus, hypotheses 7.2 and 7.3 are not supported.

For control variables, such as capital intensity, the TFP growth increases by 0.2009 percent and 0.1096 percent respectively when capital intensity increases by 1 percent in

the same year. Similar positive and significant results are found in regression tests 7.6, 7.7, 7.9 and 7.10 respectively.

Meanwhile, regression tests 7.5 to 7.10 show human capital as significantly and positively correlated with the TFP growth. In the regression tests, it is found that one percent growth in human capital contributes in the range of 0.4496 to 0.5515 percent of TFP growth; however, there is no significant result found in IFDI.

7.5 Analysis and Discussion

The key research focus in this study is to examine the impact of OFDI on the home-country productivity in the Chinese economy at the industry level. Positive coefficient of Chinse OFDI on TFP is found according to the growth accounting approach and conventional econometric approach. The regression tests find that there is slight productivity growth in China was contributed by Chinese OFDI after one year, and this result indicates that there is knowledge transfer from host country to China via Chinese MNEs and provides clear answers to the research question. This also aligns with the previous study conducted by Zhao et al. (2010), which focuses on the impact of Chinese OFDI in eight developed countries.

Other than that, the study evaluates the impact on productivity of Chinese OFDI by the host country, such as the U.S. and the E.U. and Hong Kong SAR. Unfortunately, there is no significant finding, and the results do not support hypotheses 7.2 and 7.3. This means that the hypotheses for testing strategic asset seeking Chinese OFDI in the U.S. and the E.U., which enhances the home-country productivity, and Chinese OFDI in Hong Kong SAR, which enhances the home-country productivity, are not supported. One of the major issues in evaluating the impact is the missing data, as there is no complete overview of Chinese OFDI in Hong Kong SAR and Chinese OFDI in the U.S. and the E.U. in the nineteen industries from the China official statistics, and the data between 2004 and 2008 are inaccessible. Therefore, the sample size dropped from 164 in the regression tests with overall Chinese OFDI to 87 when the impact on productivity of Chinese OFDI by the host country such as the U.S. and the E.U. and Hong Kong SAR is evaluated. Furthermore, the R square also reduces from 0.74 percent to 0.54 percent, which means the percentage level of the variation of OFDI that can be explained by all the stated explanatory variables in the regressions is relatively weak compared with the regression test of the overall Chinese OFDI. Besides, the results may relate to the ability-willingness of subsidiaries to transfer mentioned by Mudambi et al. (2014). The subsidiaries in OECD and Hong Kong SAR may have a higher ability but perhaps a lower level of willingness to transfer knowledge to the parents, and this

phenomena is more common for an acquired subsidiary. Also, the geographical distance, relational distance and cultural difference also influence the effectiveness of transfer.

Regarding control variables, some significant findings are confirmed. Human capital and capital intensity both make positive and significant contributions to the growth of TFP. These findings align with the literature, which supports human capital and capital intensity as facilitative with positive spillovers.

The results, in comparisons with previous studies, have similar findings, which show there are positive coefficients of OFDI on productivity growth. However, the scope of this study was extended from the firm level to the industry level compared with the previous three empirical studies (Hsu, 2015, Cozza et al., 2015, Huang and Zhang, 2017). When compared with the study conducted by Zhao et al. (2010), the sample size has been extended, and OFDI in all countries is considered instead of limiting OFDI to eight developed countries. It is critical to conduct this study at the industry level with a larger sample, in order to consider any spillover effects generated from the Chinese MNEs to other local companies, and to consider cross-sector knowledge transfer.

Last but not the least, the growth accounting approach and conventional econometric approach of TFP estimation are used in this study. Based on the correlation coefficients

test, the TFPs that are estimated are closely correlated; however, the estimated coefficients of OFDI impact on TFP function are different, and the significant level of the growth accounting approach (five percent) is higher than conventional econometric approach (ten percent).

7.6 Conclusion

The objective of this study aims to evaluate the impact of Chinese OFDI on home country in regards to productivity. The influence or spillovers from Chinese MNEs to local firms are considered in the productivity study, and a macro view is taken to develop a model to investigate the Chinese OFDI impact to the overall productivity in nineteen industries from 2003 to 2015.

In the study, the results indicate there is slight productivity growth in China contributed by Chinese OFDI after one year. This result indicates that there is knowledge transfer from host country to China via Chinese MNEs. However, the study does not find a significant result that evaluates the impact on productivity of Chinese OFDI by the host country, such as the U.S. and the E.U. and Hong Kong SAR.

In this study, the variable of TFP is estimated by the growth accounting approach and conventional econometric approach, and two sets of TFP data are formed. In all

regression tests, a positive coefficient of Chinse OFDI on TFP is found. This ensures the robustness of the results and sensitivity of model specification, and it also finds the significant level under the growth accounting approach is higher than the conventional econometric approach.

The positive findings are encouraging for Chinese OFDI, and the positive results should have a positive effect on policy. The results support the critical concept of springboard and catch up approach of OFDI from China. Meanwhile, the findings show the knowledge transfer between subsidiaries and parent is not as effective as expected. The Chinese MNEs should review current knowledge management strategy, and redesign the mechanism of knowledge transfer, as it is a critical determinant of how Chinese MNEs utilize the acquired technology and knowledge, eventually to enhance the firms' competitiveness.

Appendix 7.1 Nineteen industries in the China economy

Sector	Industry name
Primary	Agriculture, Forestry, Animal Husbandry and Fishery
Primary	Mining
Secondary	Manufacturing
Secondary	Production and Supply of Electricity, Gas and Water
Secondary	Construction
Tertiary	Transport, Storage and Post
Tertiary	Information Transmission, Computer Services and Software
Tertiary	Wholesale and Retail Trades
Tertiary	Hotels and Catering Services
Tertiary	Financial Intermediation
Tertiary	Real Estate
Tertiary	Leasing and Business Services
Tertiary	Scientific Research, Technical Services and Geologic Prospecting
Tertiary	Management of Water Conservancy, Environment
Tertiary	Services to Households and Other Services
Tertiary	Education
Tertiary	Health, Social Security and Social Welfare
Tertiary	Culture, Sports and Entertainment
Tertiary	Public Management and Social Organizations

Chapter 8 :

The Motivation and Impact of Chinese Outward Foreign Direct Investments: Summary and Conclusions

This chapter concludes the thesis by discussing the main findings and implications for policymakers and stakeholders; it also acknowledges the research limitations and suggests potential areas for future research. The chapter consists of four sections. Section 8.1 summarises the main findings of this study. Section 8.2 discusses the contributions of thesis to literature. Then section 8.3 points out directions for future research, and finally section 8.4 expands the implications of the thesis to policy makers and practitioners in Chinese MNEs.

8.1 Summary of the Main Findings

This thesis investigates three research questions which were designed based on the latest trends and developments of Chinese OFDI after the Chinese government intensively promoted the "Go Global" policy in the late 1990s. The three empirical studies are closely interrelated, even though they have different research objectives and answer three different research questions. Two of the three empirical questions focus on the motivation of Chinese OFDI in two particular geographic areas i.e. the OECD countries

and Hong Kong SAR. OECD countries were studied because of the increasing growth of Chinese OFDI in OECD countries, particularly strategic asset seeking investments in recent years, and Hong Kong SAR was selected because it attracts the largest amount of Chinese OFDI annually. Meanwhile the third empirical study examines the impact of Chinese OFDI, and aims to evaluate the effectiveness of Chinese OFDI in two specific geographical areas for particular motivations of OFDI. In these three empirical studies, insightful results were obtained to answer the three research questions respectively, and below are the key findings of each study.

Strong technological seeking motivation of Chinese OFDI in OECD countries

In the empirical study of strategic asset seeking motivation of Chinese OFDI (Chapter 5), mixed results for technological asset seeking of Chinese OFDI in OECD countries were found. Table 5.4 shows that the measurement unit of technological output (patent) and the measurement unit of technological capability (R&D) have significant but opposite results. A second model was made and the results in Table 5.5 show that the flows of Chinese OFDIs are influenced by their own absorptive capability. The Chinese MNEs are more likely to invest in a host country with a lower technological gap in comparison with China.

The study also confirms there are market seeking, resource seeking and efficiency seeking Chinese OFDI activities in OECD countries. The significant result of these different motivations helps to draw a conclusion regarding Chinese OFDI in OECD countries. Because this is the first empirical study to find efficiency seeking Chinese OFDI, this study is the first empirical study to support all motivations of MNEs proposed by Behrman (1972).

The findings in Chapter 5 provide the answer to the first empirical research question and show the relationship between the growth of Chinese OFDI in OECD countries and strategic asset seeking through Chinese OFDI. The results are aligned with previous findings that indicate Chinese OFDI looks for an immediate catch up effect instead of long-term development potential.

Admittedly, there are limitations in the study. There were two major areas that did not have significant results, including marketing asset seeking Chinese OFDI and the role of government in strategic asset seeking Chinese OFDI. No empirical findings on marketing asset seeking activities of Chinese MNEs and the role of government have been identified, and this might be caused by the short period of time series. Further research could conduct a similar empirical study with the time series lengthened, to make sure that there are enough samples in the regression test and this could also help

identify the time-lag effect of government policies for evaluating the role of government and its policy.

Hong Kong SAR enhances the competitive advantages of Chinese MNEs

After conducting the survey and interviews in this firm-level study, a better overview of Chinese OFDI in Hong Kong SAR has been obtained in Chapter 6. Firstly, finance accessibility and a transparent legal system are strongly needed by Chinese MNEs, which Hong Kong SAR offers under the "one country, two systems", and setting up a subsidiary in Hong Kong SAR strengthens their capability in these areas according to the interviewees mentioned in section 6.9. Besides, the study explores round tripping investments and onward journey investments of Chinese OFDI in greater detail. The study results show that Chinese MNEs that conduct round tripping are not only performing rent seeking and opportunity seeking activities, many investments in Hong Kong SAR are for practical operations and value seeking in order to enhance the flexibility and efficiency of conducting OFDI and foreign trading activities. The MNEs can avoid the administrative procedures and restrictions under China law based on the interview findings with InvestHK and the Hong Kong subsidiaries of Chinese enterprises. These results answer the second research question and explain the reasons for the substantial Chinese OFDI flows to Hong Kong SAR.

Lastly, to facilitate an understanding of the motivations of Chinese OFDI in Hong Kong SAR, a self-developed conceptual matrix with the dimension of round tripping and onward journey experiences was formulated and shown in Figure 6.5, and four types of MNEs are categorised. The matrix facilitates an understanding of the motivation and strategies of each type of Chinese MNE for investing and building up operations in Hong Kong SAR. From the matrix, it is learnt that round tripping and onward journey investments in Hong Kong SAR are very common.

In this study, data issues caused limitations to the empirical results. Due to limited connections with Chinese MNEs in Hong Kong SAR, a low response rate of the questionnaire became a major obstacle in the study. Fortunately, several companies accepted to conduct in-depth interviews. To enhance the response rate of the study, it would be better to conduct it with an institution such as InvestHK. There are two major advantages for this, firstly, the institution has reliable data and the latest database of subsidiaries of Chinese firms in Hong Kong SAR; secondly, the target companies are less concerned about the research objective and the data usage if they are aware that the study is conducted together with the institution. Furthermore, qualitative case studies are strongly recommend for future studies in this research area, as the insights collected are far more comprehensive and relevant for filling the research gap.

Chinese OFDI facilitates the enhancement of TFP in China

Chapter 7 describes the investigation of the impact of Chinese OFDI on productivity in China from a TFP perspective at the industry level. The findings in section 7.4 show Chinese OFDI facilitates TFP growth with a one-year time lag. Besides, the study evaluates the impact on productivity of Chinese OFDI by the host country, such as the U.S. and the E.U. as well as Hong Kong SAR. Unfortunately, there was no significant finding, which might be caused by missing data. This result cannot explain the impact of strategic asset seeking OFDI in the U.S. and the E.U., as well as the efficiency seeking OFDI in Hong Kong SAR. Nevertheless, the impacts of OFDI in different host countries are insightful to indicate the consequences of different motivations of Chinese OFDI.

The results provide an answer to the third research question. The positive TFP impact shows the effectiveness of the Chinese government in encouraging Chinese OFDI; however, it will be more valuable if more time series data is available.

8.2 Research Contributions

The three empirical studies generate new insights in the research area of the motivation and impact of Chinese OFDI, and these findings contribute to the literature of international business.

The findings from the empirical study examining the motivation of strategic asset seeking Chinese OFDI in Chapter 5 partly confirm the strategic asset seeking of Chinese OFDI. The approach in this study is different from previous quantitative studies (Alon, 2010, Kang, 2009), the strategic assets are separated into marketing asset and technological asset as suggested by Dunning et al. (2008) and Wu and Ding (2009), then the mixed result of technological asset seeking motivation is found from regression equation 5.1. Regarding technological asset seeking motivation, the study finds the number of patents per person in a host country has a positive impact, however the R&D expenditure in a host country shows a negative effect, which contradicts the previous findings of Amighini et al. (2011). Furthermore, this study finds that the technological gap has a significant impact on Chinese investment, and Chinese MNEs are less willing to invest in a host country with a large technological gap. The opposite result of these technological asset measurement units indicates that China MNEs are targeting an immediate technological outcome instead of long term technological capability of a host country. This strategy is in line with the catching up strategy proposed by Mathews (2006b). Lastly, this empirical study reconfirms the previous findings of other motivations and it is the first empirical study to identify all of the motivations of Chinese MNEs proposed by Behrman (1972).

The study of Chinese OFDI in Hong Kong SAR in Chapter 6 is the first empirical study in the field to identify the motivation of Chinese OFDI in Hong Kong SAR. The findings from the study are insightful because the proportion and scale of Chinese OFDI flows in Hong Kong SAR each year are huge and stable. The major contribution of the study is that we can confirm the motivation of Chinese OFDI in Hong Kong SAR as efficient seeking investment. The MNEs aim to reduce the transaction costs of operations and internationalisation by utilising the location advantages of Hong Kong SAR, and this explains why onward journey investments and round tripping investments are common in Hong Kong SAR. Furthermore, we can confirm the round tripping activities should be identified as value seeking instead of rent seeking and opportunity seeking based on the classification of Xiao (2004). The investment is not only a normal business decision, but also a strategic move for Chinese MNEs equipping a competitive advantage in the long run. This finding shows the importance of the round tripping activities and researchers should not overlook this in Chinese OFDI research. Finally, the self-developed round tripping and onward journey matrix explains a different approach and scale of subsidiaries set up by Chinese MNEs in Hong Kong SAR. The matrix can be applied to other studies in the same research area to generate more implications.

Finally, the study of the impact of Chinese OFDI on productivity in China in Chapter 7 found a slight productivity growth in China contributed by Chinese OFDI after one year,

the findings are aligned with Zhao et al. (2010). Therefore, the major contributions of the results are the identification of the positive impact of Chinese OFDI on TFP and the confirmation of the effectiveness of catching up strategy of Chinese MNEs. Meanwhile, the results indicate the challenges of knowledge transfer between subsidiaries and parent companies in China, as the coefficient of TFP growth and significant level are not high enough respectively.

8.3 Future Research

The significant findings of the three empirical studies in Chapters 5, 6 and 7 build a good foundation for further investigation. The findings in the empirical studies could stimulate more discussion and offer further research opportunities.

In the empirical study examining the motivation of strategic asset seeking Chinese OFDI, the finding that Chinese MNEs look for an immediate technological outcome instead of long term technological capability give new insights to understand the catch-up approach adopted by Chinese MNEs. Based on these results, the targets for M&A of strategic asset seeking Chinese MNEs, in general, in OECD countries can be identified; however, OECD countries have huge geographical coverage, and each one has its own competitive advantage. Thus, more in-depth country specific studies might facilitate

greater understanding about the strategy of Chinese MNEs. Furthermore, the root cause of the negative impact of R&D investment in a host country on the decision of Chinese enterprises also merits further investigation. In general, these two results should initiate more firm-specific case studies, and they should provide better guidance to researchers by shifting their focus on technology outcome when there is technological asset seeking discussion.

In the empirical study of Chinese OFDI in Hong Kong SAR, the official statistics provided by National Bureau of Statistics of China do not comprehensively reflect the actual Chinese OFDI activities; the statistics of Chinese OFDI flows and stocks are not complete and are complicated by the OFDI in Hong Kong SAR and other offshore financial centres. Since the Chinese OFDI stocks and flows in Hong Kong SAR take the largest proportion annually, without the knowledge of the proportion of round tripping and onward journey Chinese OFDI in Hong Kong SAR, the final destination of Chinese OFDI cannot be identified. Also, the distribution of Chinese OFDI in the industrial sector is also episodic, as the investment in Hong Kong SAR is not the final motivation of the investments. Therefore, further investigation that aims to evaluate the behaviour and motivation of Chinese OFDI in Hong Kong SAR is necessary. In the medium to long term, a dataset of Chinese OFDI that considers the round tripping and onward journey in host countries should be built, and a database of global M&A cases

would be a good starting point to reconstruct the data of Chinese OFDI round tripping and onward journey activities. Last but not the least, future research with strong institutional involvement is highly recommended which might improve the response rate and provide more insightful findings.

In the empirical study on identifying the impact of Chinese OFDI, the positive impact on productivity is confirmed. With respect to future research relevant to this finding, the effectiveness of government policy on the Chinese OFDI should be closely examined. The impacts of OFDI in different host countries are valuable to indicate the consequences of different motivations of Chinese OFDI. Though this study indicates the final outcome, further investigation is needed to identify the process of knowledge transfer from host country to home country. Furthermore, the process of spillovers from MNEs to local enterprises in China is another topic for further exploration.

8.4 Implication to policy makers and practitioners in Chinese MNEs

In this study, insights have been gained on the motivation of Chinese OFDI in OECD countries and Hong Kong SAR, and the impact of Chinese OFDI on productivity in home countries. Thus, there are implications for different policy makers and practitioners in Chinese MNEs.

Based on the findings of strategic asset motivations of Chinese OFDI, it is shown that the strategic asset seeking Chinese MNEs are seeking technological output. The Chinese government should simplify the administration and approval procedures as well as encourage future technological output acquisition projects for the catch-up purpose. The Ministry of Commerce and the Ministry of Foreign Affairs of the Chinese government should consider these research findings when they prepare the new edition of the Catalogue of Countries and Industries for Guiding Investment Overseas.

Learning from the findings of the empirical study of Chinese OFDI in Hong Kong SAR, Chinese MNEs invest in Hong Kong SAR to utilize the location advantage to compensate for the disadvantage of the China market. Thus, the Chinese government should consider improving the business environment for supporting Chinese OFDI, particularly in the financial market and legal system, which are major constraints for further development of Chinese enterprises. Secondly, Chinese MNEs mentioned that the application and approval procedures of Chinese OFDI activities are too complicated, the Chinese government should review the current Chinese OFDI policy from a bureaucratic administrative perspective.

Additionally, the study confirmed the location advantage of Hong Kong SAR, and Hong Kong SAR government should maintain the “one country two systems” mechanism.

Furthermore, it should strengthen its core competence in the financial market and legal system in order to maintain competitiveness and support the internationalisation process of Chinese enterprises. In the long run, Hong Kong SAR should extend the scope of Closer Economic Partnership Arrangement (CEPA) with China, and it should maintain and extend the free trade agreement with different countries in order to maintain its importance as a regional hub.

Lastly, based on the insights obtained from the investigation of the impact of the Chinese OFDI, the positive impact of Chinese OFDI on TFP demonstrates the success of the catch up approach, and the Chinese government should further evaluate how to enhance the magnitude of the spillovers from host country to China. The Chinese government should continue to implement the "Go Global" policy. However, the positive impact is not very strong, which indicates the effectiveness of knowledge transfer is low, and the practitioners in Chinese MNEs should be aware of this to redesign communication between foreign subsidiaries and parent companies in China.

In conclusion, this thesis suggests that the findings and implications, with regard to the motivation of Chinese OFDI in OECD countries and Hong Kong SAR, as well as the impact of Chinese OFDI on home economy should be considered and adopted by policy

makers and stakeholders as it provides a contribution towards improving Chinese OFDI, internationalisation knowledge, and the capability of Chinese MNEs.

Appendix 6.1 Interview Participant Information Sheet

7 June, 2014

Sub: Participant Information Sheet

Dear interview participant,

Thank you for your assistance with my research into the Internationalisation of Chinese enterprises conducted by under the auspices of Lancaster University Management School.

I am a PhD candidate of Lancaster University investigating the internationalisation of Chinese enterprises. During recent years large investment flows have entered Hong Kong SAR from Chinese enterprises. Despite this, no empirical study has been conducted to evaluate the cause and the impact of this. Thus, this research aims to contribute to the understanding of the role of Hong Kong SAR in China's 'Go Global' policy.

To further my research in this field, and to discuss the economic development of Hong Kong SAR in the future, I am hoping to meet with you individually to explore and exchange ideas on the issue. I would anticipate that the interview would take around three-quarters of an hour. In particular, I would like to discuss the following with you:

To understand the motivations of Chinese enterprises investing in Hong Kong. - To identify the push factors in China which influence Chinese enterprise investment in Hong Kong. - To discover the pull factors in Hong Kong which attract Chinese investment. - To understand the business scope of Hong Kong subsidiaries of Chinese enterprises. - To study onward foreign direct investment from Hong Kong.

All information provided will be kept strictly confidential and will be used purely for academic research and will not identity any individuals or companies in any work arising from the interview.

As participation is entirely voluntary you can choose not to answer questions, or can request that the interview be terminated or discarded at any time up to 1 week after the interview. The data collected will be destroyed immediately once you decide not to continue the interview. However, if we do not hear any feedback one week after the interview, the data will remain in the study. The interview will be recorded by audio recorder and note making. The objective of audio recording is to ensure the notes taken during the interview are accurate. Once cross-checking and confirmation is made, the audio recording will be deleted from the recorder immediately. Meanwhile the interview notes will be stored securely in a password protected PC.

Should you have any questions about the interview or the research, please do not hesitate to contact Mr. Chi Chung Pun (email: c.pun@lancaster.ac.uk; Tel +852 9718 0847). In case of complaints or concerns about the research, please contact my supervisors Dr. Robert Read (email: r.read@lancaster.ac.uk; Tel: +44 1524 594233) or Dr. Hilary Ingham (email: h.ingham@lancaster.ac.uk; Tel: +44 1524 593925).

Your assistance is highly appreciated.

Yours sincerely,

Chi Chung PUN

Lancaster University Management School

Lancaster University

Appendix 6.2 Details of the Interview Companies

1. Company A Introduction

Company A is a pharmaceutical company, which was established in Hong Kong SAR in 2004 and listed on the GEM board of the stock exchange on May 2013. Company A's parent company has a long history and social status in mainland China, it is a Beijing state owned enterprise, and has been established since 1669. It had been designated to supply medicines to the royal pharmacy of the Imperial Court of the Qing Dynasty for 188 years. Currently, the parent company hosts three listing companies in Hong Kong SAR and mainland China, and it manufactures and develops Chinese medicines, healthcare products and herbs for hospital and consumer markets.

With huge demand for Chinese medicines in overseas market, the parent company decided to expand to overseas markets and set up company A in Hong Kong SAR. It is a distributor engaged in both retail and wholesale of Chinese medicine products in Hong Kong SAR, Macau SAR and other countries around the world. The core products are Chinese medicines, healthcare consultation and Chinese herbs, including the self-developed healthcare products as well as the Chinese medicines of the parent company. In 2013, the sales revenue was GBP 47million, 63.9 percent was contributed by the Hong Kong local market, meanwhile, 12.1 percent was generated by China, 5.7 percent from Australia, and 5.3 percent from Singapore.

In the Hong Kong operations, company A has 438 employees, the corporate structure is fully equipped with accounting and finance, sales and marketing, administration and legal departments and Hong Kong SAR is the global headquarters for sales and marketing. It also established manufacturing facilities and R&D team for developing several famous products in Hong Kong SAR. Besides, company A accesses funding

from the stock market, it listed in GEM board, which helped company A to access HKD 647.2 million (GBP 50.40 million) working capital and provide a good cash flow and liquidity for further R&D development and overseas market expansion.

As the pioneer of Chinese medicines, it is not easy to find a strategic partner in foreign countries, thus most OFDIs are greenfield, and only three companies were set up through merger and acquisitions. Recently, company A invested more than USD 29 million in FDI up to 2013. 76 percent was invested in mainland China, Korea was the second largest host country, and Thailand was the third. The FDI activities were mainly market seeking oriented, and aimed to extend the distribution network and set up branches in overseas markets for selling Chinese medicines. Other than that, there are overseas investment aims for accessing good natural resources, which is a type of resource seeking oriented investment, like the investments in China, Thailand and Cambodia. In sum, 9.3 percent of total assets were invested in overseas markets, and 5.7 percent were invested in mainland China. In the future, company A will continuously expand in overseas markets, and two major markets are Poland and New Zealand, where the Chinese population is expanding, and internally company A has already been granted approval by regulators for these two markets.

2. Company B Introduction

Company B originally was set up by a Hong Kong businessman in 1963, and it was sold to a Chinese enterprise, and then officially became a Chinese firm in 2011. The business of company B includes designing, manufacturing of textile dyeing and finishing machinery. It was the first Hong Kong company to enter the giant textile dyeing and finishing market in China in 1969, meanwhile it was the first company in the industry to list on the HKEx in 1990.

Company B was acquired by the current parent company in 2011. Its parent company was set up in 1998, and it is a central state-owned enterprise under the direct supervision and administration of the State-Owned Assets Supervision and Administration Committee of the State Council of the PRC. It became the largest and complete textile machinery supplier in the world after the acquisition. Other than the textile industry, the parent company has diversified the business to the automobile industry since 2012.

The office in Hong Kong SAR is the global headquarters for the textile dyeing and finishing machinery. Other than the textile machinery business, company B also set up the stainless steel trading and casting manufacturing businesses to accommodate raw material supply. In 2013, the total sales revenue of company B was HKD 3,757 million (GBP 292.51million), and the major market was mainland China (49 percent), followed by Asia Pacific outside of China and Hong Kong, and the Hong Kong market ranked third.

Nowadays, company B employs 4,960 labourers, around 400 labourers are working in the Hong Kong office for accounting, trading, sales, and marketing functions, it also has a legal team to handle compliance issues. Others are working in Shenzhen and Zhongshan branches, which are manufacturing bases.

Company B also conductes foreign investments by acquiring state-of-art technology from Germany and Switzerland. Those investments are strategic asset seeking and aim to acquire the latest technologies and intellectual property; meanwhile, the investments extend the product portfolio of the group company. Other than strategic asset seeking FDI, company B also establishes overseas subsidiaries for sales and marketing purpose, currently around 5 to 6 subsidiaries are set up in Germany, India, USA and S. E. Asia. Lastly, the investments in Shenzhen and Zhongshan aim to utilize the low cost

operations in mainland China to support the manufacturing and R&D functions, which is a type of efficiency seeking investment. In the future, company B will continue investing in overseas markets.

3. Company C Introduction

Company C is a logistic group, which provides logistic services of oil and petrochemical to its parent company, and its core businesses include the operation of crude oil loading and unloading, storage and transportation, shipping of oil, liquefied natural gas (LNG) and petrochemical, which mainly focus on the middle stream of the whole value chain.

Company C was established in Bermuda in 1998 and it was successfully listed on HKEx in 1999. Even though company C is an offshore holding company, its parent company is a wholly owned subsidiary of a central state-owned enterprise. Company C has two wholly owned enterprises, one is the operation in Hong Kong SAR, and the other is an investment company based in British Virgin Islands. These two holding companies hold seven wholly or jointly owned domestic terminal companies and five subsidiaries dealing in the shipping and storage business in mainland China, Hong Kong SAR, the U.A.E., and Indonesia. All the investments in infrastructure aim to facilitate the operations of crude oil loading and unloading, storage and transportation, shipping of oil, LNG and petrochemical, and the major objective is to extend the market, which is classified as market seeking investment.

For company C, Hong Kong's role is to offer funding for the whole operation. The objective of setting up a Hong Kong subsidiary is to facilitate the listing and maintain corporate finance; thus, the main functions are finance, marketing and administration, and around 10 employees are employed in Hong Kong SAR. Another function of the

Hong Kong companies is to provide funding to overseas operations without foreign exchange controls. In the future, the FDI of company C is to expanding in order to ensure the stable supply of oil and LNG to China.

The organisation structure of company C is more complex compared with company A and B, but this type of set up seems to be a common way for many Chinese enterprises issuing red-chip shares. The parent company sets up a registry office in a tax heaven, outside mainland China, and then sets up an office with operations and core functions in Hong Kong SAR. Meanwhile, most of the companies will invest back to China after listing in the Hong Kong stock market. Taxation is the major concern for setting up this model, and the set up also fully utilizes the location advantage of each site. However, the home country of investment in Hong Kong SAR is not from China, from a statistics perspective, instead, the investing country is Bermuda in this case; this example illustrates the complexity of Chinese OFDI and the bias of current FDI data in geographical composition.

4. Company D Introduction

The headquarters of company D was originally in Taiwan, and it was established in 1967. It started in the manufacturing of televisions and currently it is one of the largest LCD TV and PC monitor manufacturers in the global market.

The major operations of company D are in Taiwan and mainland China, and the company is incorporated in Bermuda. Company D listed in Hong Kong and Singapore in 1999. The major shareholder of company D is a Chinese electronic company which is a key state-owned conglomerate directly under the administration of the central government and the largest state-owned IT company in China, who hold 37.05 percent

of the shares. The majority shareholder is supplying lots of the raw materials to company D, and company D focuses on the manufacturing, sales and marketing along the value chain.

As mentioned, company D is listed in Hong Kong, and the office focuses on corporate finance and investor relations for the Hong Kong and Singapore stock markets. The office in Hong Kong SAR has been established for more than 20 years; company D set up this office because of good human capital and the legal system. Thus, the Hong Kong subsidy always becomes a contractual party of legal documents and a majority OFDI activities are done in Hong Kong SAR, particularly for the investments in Europe and the U.S. Other than Hong Kong SAR, it has manufacturing sites in China, Brazil, Mexico, Poland, Russia and Argentina, while it has R&D in China, Taiwan, India and Belgium, and 80 percent of investments are made by greenfield, particularly building up factories. The remaining 20 percent M&A focus on business development, patent and sales channels. Investments in the future will become stable, as the market is quite mature in Asia, but there will be more focus on the U.S. and Europe.

5. Company E Introduction

Company E is a company focused on the thin film solar power manufacturing, research, and development. Its core activities include the manufacturing of equipment and turnkey production lines for the production of silicon based thin-film power modules, the technological development and production of Copper Indium Gallium Selenide ("CIGS") thin-film power turnkey production lines, building ground-mounted power stations and rooftop power stations for sale, and the development of thin-film power application products.

Different from the previous four companies, company E is owned by a mainland private enterprise. Company E is registered in Hong Kong as a regional sales office for the Asia Pacific region and was listed on the Hong Kong Exchange in 2000. Its parent company was registered in Bermuda in 1998, has run the business of solar energy for a long while, and concentrates on the upstream of the value chain such as R&D and manufacturing. Since 2013, they have started to consider investing in the downstream and extending its sales and marketing networks. In total, there are six regional offices globally, including company E, and they support the business development of all business units in the group company.

The operation in Hong Kong was set up in 2003, and the approximately 30 employees work in finance, sales and marketing, and other administration departments. From an OFDI perspective, company E has acquired the most advanced technologies in the entire thin-film power industry chain to improve its competitiveness. Market competitiveness was gained through strategic acquisitions and it has acquired global leading Cooper Indium Gallium Selenide (CIGS) thin-film power technologies in Germany and the U.S.; thus, Company E has R&D teams around the world, including China, Germany, Sweden and the United States. Other than that, market seeking activities are also common, investments in Japan, Pakistan and Australia were conducted for meeting the regulatory requirements to win project tenders.

However, as the parent company violated the rule of corporate governance and was involved in unusual trading patterns, the Securities and Futures Commission in Hong Kong SAR ordered its parent company shares suspended from trading pending in July 2015.

Appendix 6.3 Questionnaire

15 November, 2014

An invitation to participate in an academic research survey

Dear Sir/Madam

I am currently engaged in an academic research project at Lancaster University Management School which is investigating the internationalisation of Chinese Enterprises. In connection with this research I would like to invite you to participate in a survey which should take approximate 15 minutes to complete and aims to understand the role of Hong Kong in the 'Go Global' plan of Chinese enterprises

The design of questionnaire would explore and exchange ideas on the following:

- To understand the motivation of Chinese enterprises investing in Hong Kong;

- To understand the business scope of Hong Kong subsidiaries of Chinese enterprises;

- To study onward foreign direct investment from Hong Kong.

All information provided will be kept strictly confidential and will be used purely for academic research. It will not identity any individuals and companies in any work arising from the survey.

As participation is entirely voluntary, interviewees can choose not to answer questions. Should you have any questions about the survey, or the research, please do not hesitate to contact Mr. Chi Chung PUN (c.pun@lancaster.ac.uk), Dr. Robert Read (r.read@lancaster.ac.uk) or Dr. Hilary Ingham (h.ingham@lancaster.ac.uk).

Your assistance is highly appreciated. Please fill in the enclosed questionnaire and return it in envelope provided by 10 January, 2015.

Yours sincerely,

Chi Chung PUN

Lancaster University Management School

Section 1: Background information of Hong Kong subsidiary
第一部分: 香港分公司背景資料

1.1 How long has your company been operating in Hong Kong?
香港分公司營運多久？

a. < 2 years b. 2-5 years c. 6-10 years d. 11-20 years e. >20 years

1.2 How long has your company been listed in Hong Kong?

香港分公司在香港上市掛牌多久？

a. < 2 years b. 2-5 years c. 6-10 years d. ≥10 years

1.3 How many employees do you have in Hong Kong?
香港分公司有多少員工?

a. <50 b. 50-249 c. 250-999 d. 1000-4999 e. 5000 or more

1.4 What are your major business functions in Hong Kong?
香港分公司的主要業務與功能是什麼？

a. Accounting & Finance 會計和財務
b. Sales & Marketing 銷售和市場營銷
c. Administration & Operation 行政管理和營運
d. Legal Advisory 法律事務
e. Others (Please specify) 其他 (請註明): _____

1.5 Is the Hong Kong subsidiary a regional headquarter?
香港分公司是否區域總部？

a. Yes 是 b. No 不是

Section 2: Factors considered in setting up Hong Kong subsidiaries
第二部分: 在香港成立分公司的因素

2.1 What are the favourable factor(s) in Hong Kong for establishing a subsidiary? (Max 3 options)
香港有哪些因素吸引貴公司來港成立分公司？(最多選擇 3 項)

a. Human capital 人才
b. Financial system 金融體系
c. Legal system 法律制度
d. Information flow 資訊流動
e. Geographic factor 地理因素
f. Market 市場

g. Others (Please specify) 其他 (請註明): _____

2.2 Are there any unfavourable factors in mainland China that encouraged you to set up a subsidiary in Hong Kong? (Max 3 options)
中國內地有哪些不利因素迫使貴公司來港成立分公司？(最多選擇 3 項)

a. Human Capital 人才
b. Financial system 金融體系
c. Legal system 法律制度
d. Information Flow 資訊流動
e. Geographic factor 地理因素
f. Market 市場
g. Others (Please specify) 其他 (請註明): _____

2.3 Are there any political considerations when making outward foreign direct investment decisions?
作出海外直接投資決定時，貴公司有考慮任何政治因素嗎？
_____Yes 有 _____ No 沒有

Section 3: Onward journey foreign direct investment from Hong Kong
第三部分: 香港的海外直接投資

3.1 Does the Hong Kong subsidiary conduct any foreign direct investment?
香港分公司有沒有作出任何海外直接投資？
_____Yes 有 _____ No 沒有 (Please go to section 4, 請作答**第四部分)**

3.2 What are the strategic objectives for your company in investing overseas via a Hong Kong subsidiary? (Max 3 options)
以下哪些策略性目的是貴公司透過香港投資海外時會考慮的？(最多選擇 3 項)

a. To provide goods or services for the overseas market
提供產品與服務予海外市場
b. To provide goods or services for the Chinese market
提供產品與服務予中國市場
c. To use local intellectual and R&D capabilities
利用海外當地研發和人力資源
d. To take advantage of host countries' cost-structures
利用海外當地成本優勢
e. To acquire natural resources
收購天然資源
f. To meet the request from the authorities of overseas market
滿足海外市場政府的要求

3.3 Which environmental factor(s) does the Hong Kong subsidiary consider when making foreign direct investment decision? (Max 3 options)

香港分公司作出海外直接投資時，會考慮以下哪些環境因素？
(最多選擇 3 項)

a. Access to the local market `海外市場發展機會
b. Local business partner relationships 海外市場合作夥伴
c. Access to technology 海外市場科研技術
d. Access to natural resources 海外市場天然資源
e. Cost competitiveness 成本因素
f. Government foreign direct investment policy 海外市場政府法規要求
g. Others 其他

3.4 What is the proportion of Greenfield or Mergers & Acquisitions of foreign direct investment from the Hong Kong subsidiary?
香港分公司的跨國直接投資性質是自己開立還是合併收購？兩者比例如何？
Greenfield 自己開立 _____% Mergers & Acquisitions 合併收購_____%

3.5 Which country/region(s) have you invested in? Please list the top 3 countries.

香港分公司的投資分佈在哪些國家或地區? 請列出首 3 個國家。

_____

3.6 Which sector(s) do you invest in the top 3 countries? What is the proportion of investment in each sector in each country?
香港分公司在首 3 個投資分佈國家主要投資分佈在哪些行業？每項比例各佔多少？

Sectors 投資行業		Top Investment Country 投資最高國家 Proportion 投資比例	Second Highest Investment Country 投資第二最高國家 Proportion 投資比例	Third Highest Investment Country 投資第三最高國家 Proportion 投資比例
IT & telecommunications (services, infrastructure)	資訊電訊			
Financial services	金融服務			
Machinery	機械製造			
Mining, metals & other commodities	採礦			
Automotives	汽車製造			
Transportation, logistics & distribution	交通運輸設備製造			
Energy & utilities	能源			
Consumer goods & appliances	消費者用品			
Pharmaceutical & health care	醫藥護理			
Chemical, petroleum, petrochemicals & gas	化學，石油，石化和氣體			
Civil engineering & construction	土木工程或建築			
Food & beverages	餐飲			
Fashion & textiles	時裝和服飾			
Retail & hospitality	零售服務			
Others	其他			

3.7 What are the future investment plans for outward foreign direct investment from the Hong Kong subsidiary?
日後在香港分公司在海外投資的策略是如何？

a. Planning further investment which will be higher than previous investment
未來投資金額比目前多
b. Planning further investment which will be similar to previous investment
未來投資金額和目前持平
c. Planning further investment which will be less than previous investment
未來投資金額比目前少
d. Not planning further investment

沒有未來投資計劃

Section 4: Corporate Profile- Nature of business in China
第四部分: 中國母公司背景資料

4.1 What is the ownership structure of the parent company?
母公司的企業性質是什麼？

a. Central state-owned enterprises 中央國有企業
b. Provisional state-owned enterprises 省級國有企業
c. Private enterprises 私人企業

4.2 How many employees does the parent company have in China?
母公司有多少員工？

a. <50 b. 50-499 c. 500-4999
d. 5,000-9999 e. ≥ 10,000

4.3 Please indicate the primary/ main sector of the business of the parent company. (Max 3 options)

請選出母公司的主要業務。(最多選擇 3 項)

a. IT & telecommunications (services, infrastructure) 資訊電訊
b. Financial services 金融服務
c. Machinery 機械製造
d. Mining, metals & other commodities 採礦
e. Automotives 汽車製造
f. Transportation, logistics & distribution 交通運輸設備製造
g. Energy & utilities 能源
h. Consumer goods & appliances 消費者用品
i. Pharmaceutical & health care 醫藥護理
j. Chemical, petroleum, petrochemicals & gas 化學，石油，石化和氣體
k. Civil engineering & construction 土木工程或建築
l. Food & beverages 餐飲
m. Fashion & textiles 時裝和服飾
n. Retail & hospitality 零售服務
o. Others 其他

4.4 Which country/region(s) has the parent company invested in? Please list the top 3 countries or regions.

母公司的投資分佈在哪些國家或地區? 請列出首 3 個國家或地區。

_____

4.5 What is the proportion of foreign investment in Hong Kong among the total outward foreign direct investment of the parent company?

母公司在香港的投資佔所有海外投資的百分比?

_____

4.6 What are the future investment plans for outward foreign direct investment by the parent company?
中國母公司日後在海外投資的策略是如何？

a. Planning further investments which will be higher than previous investment
未來投資金額比目前多
b. Planning further investment which will be similar to previous investment
未來投資金額和目前持平
c. Planning further investment which will be less than previous investment
未來投資金額比目前少
d. Not planning further investment

沒有未來投資計劃

The End--
--完--

Thanks again for your participation and support!

In order to understand more about the role of Hong Kong in the ‘Go Global’ plan of Chinese enterprises, there will be some follow-up interview sessions. If you are interested in participating, please fill in your contact information. Your help is very much appreciated.

Contact Name:_____

Contact Email:_____

Appendix 6.4 Questionnaire Findings

A) Questionnaire Findings of Hong Kong subsidiary owned by mainland government entities or individuals

In the first round of questionnaire distribution, 324 sets of questionnaires were distributed to all listing companies and only 9 questionnaires were returned and the response rate was around 3 percent. Below is the description of the input from the respondents.

Background information of Hong Kong subsidiaries

Figure A.1 shows the respondents have a certain history with the operation in Hong Kong SAR, six out of nine companies have been established for more than 11 years, and all of them have already listed in HKEx for more than 10 years shown in Figure A.2.

Figure A.1 Duration of operation in Hong Kong SAR

Question: How long has the company been operated in Hong Kong?

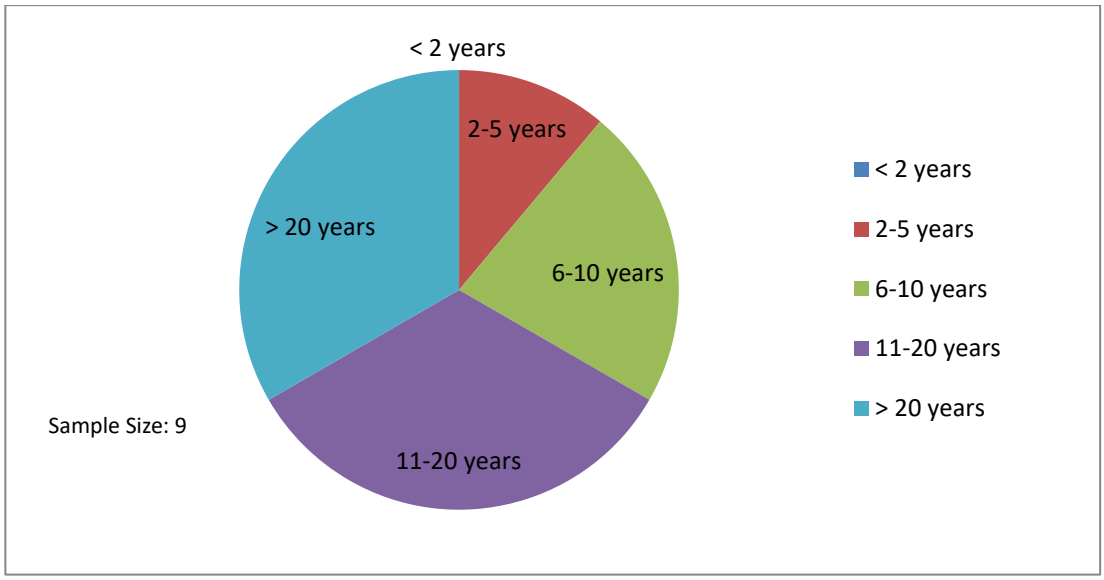


Figure A.2 Duration of listing on the Hong Kong Exchange

Question: How long has the company been listed in Hong Kong?

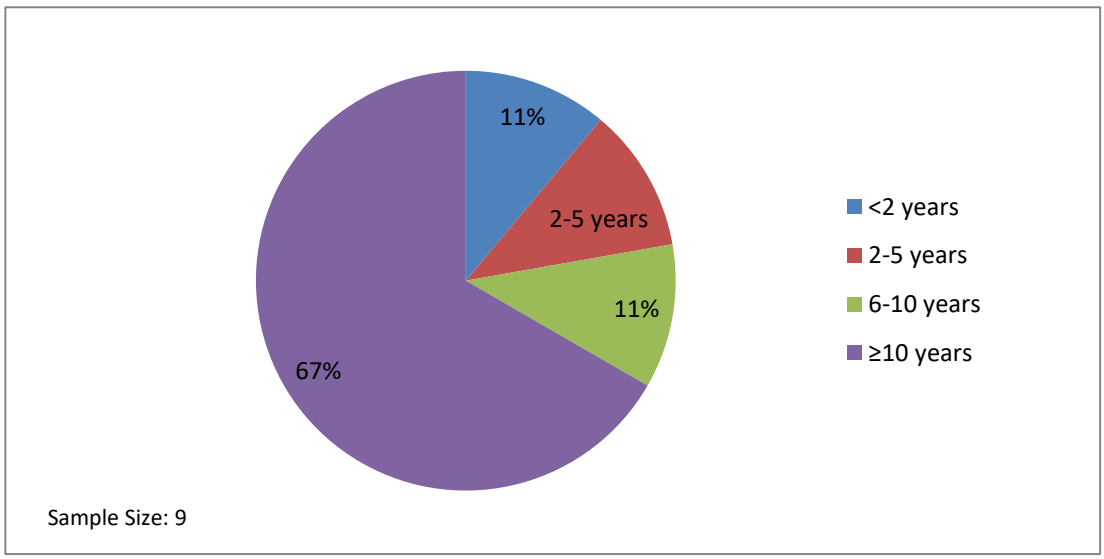
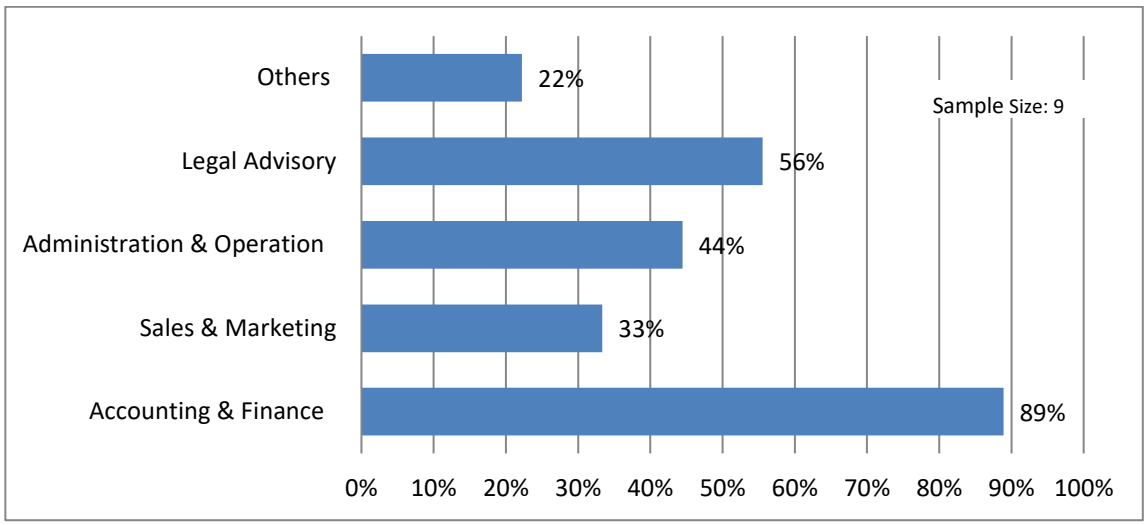


Figure A.3 indicates that eight out of nine companies have accounting and finance departments in Hong Kong SAR for maintaining the daily operation of accounting,

auditing and corporate finance. Five respondents had a legal team to provide professional legal advice, particularly on the listing, corporate finance and contracting.

Figure A.3 Major business functions in Hong Kong operation

Question: What are your major business functions in Hong Kong?

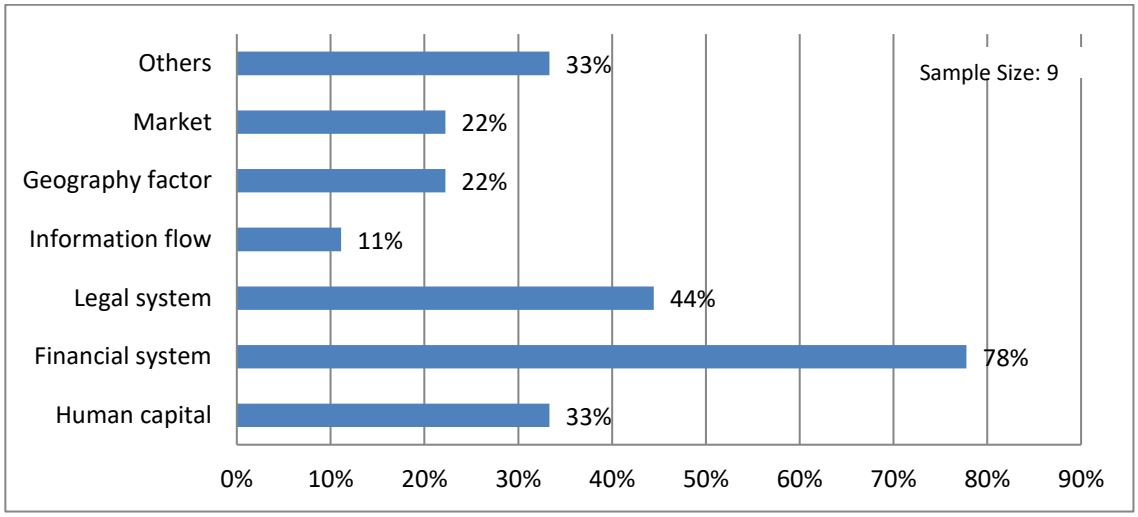


Factors considered in setting up Hong Kong subsidiaries

The respondents identified that stable and reliable financial and legal system are the key advantages of Hong Kong SAR shown in Figure A.4. Seven and four out of the nine respondents rank the financial system and legal system respectively, as favourable factors for establishing a subsidiary in Hong Kong SAR.

Figure A.4 Favourable factors in Hong Kong for establishing a subsidiary

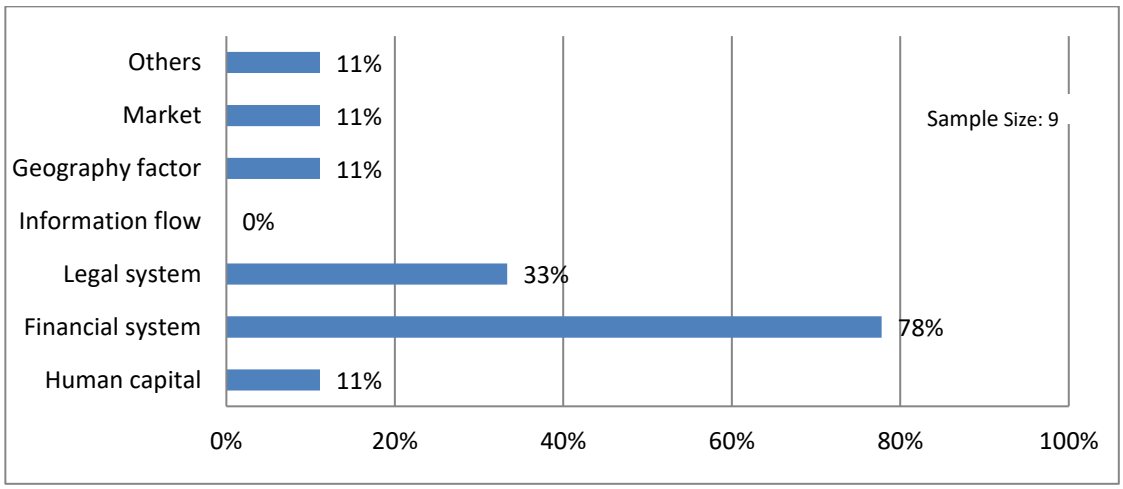
Question: What are the favourable factor(s) in Hong Kong for establishing a subsidiary? (Max 3 options)



On the other hand, these two factors are unfavourable factors in mainland China which push the investors to set up a subsidiary in Hong Kong SAR. In Figure A.5, seven respondents mentioned the financial system in China is not competitive enough for supporting corporate finance and international finance. The fund raising capability in China is much more difficult than Hong Kong SAR.

Figure A.5 Unfavourable factors in China encourage the establishment of a subsidiary in Hong Kong

Question: Are there any unfavourable factors in mainland China that encouraged you to set up a subsidiary in Hong Kong? (Max 3 options)

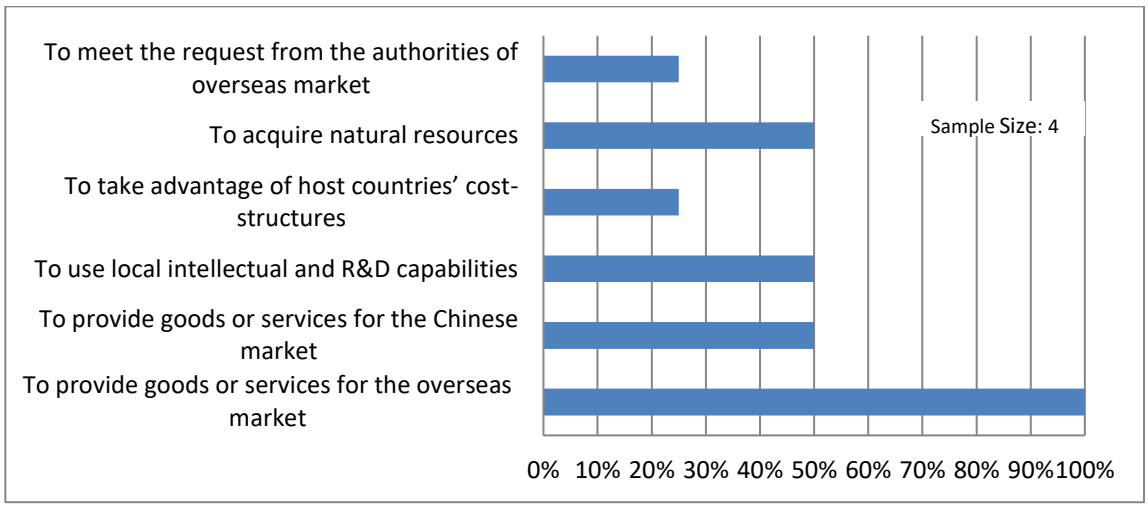


<u>Onward journey and round tripping foreign direct investment from Hong Kong SAR</u>

In Figure A.6, four out of nine companies conducted onward journey investments from Hong Kong SAR; all of them mentioned that providing better goods or services for the overseas markets is the strategic objective to set up an operation in Hong Kong SAR. The next three objectives were to acquire natural resources, to use local intellectual and R&D capabilities, and to provide goods or services for the Chinese market. Based on this information, market seeking and strategic asset seeking are two major motivations to invest overseas.

Figure A.6 The strategic objective in investing overseas via Hong Kong subsidiaries

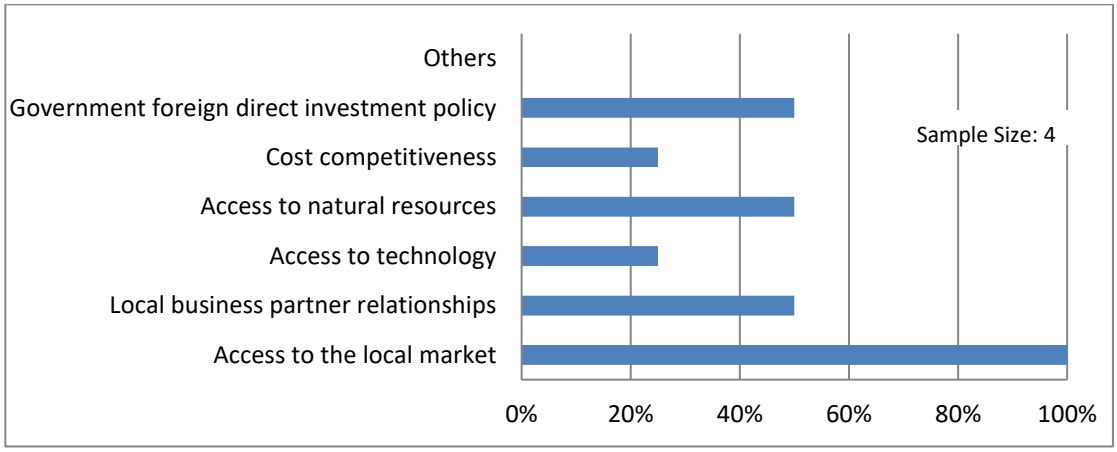
Question: What are the strategic objectives for the company in investing overseas via a Hong Kong subsidiary? (Max 3 options)



Thus, when Hong Kong subsidiaries make OFDI decisions, all respondents considered the accessibility to local markets as the core environment factor, followed by local business partner relationships, and government foreign direct investment policy. This result, in Figure A.7, indicated that market seeking is the core motivation of onward journey investments in this group of companies.

Figure A.7 Environmental factor affecting foreign direct investment decision from Hong Kong subsidiaries

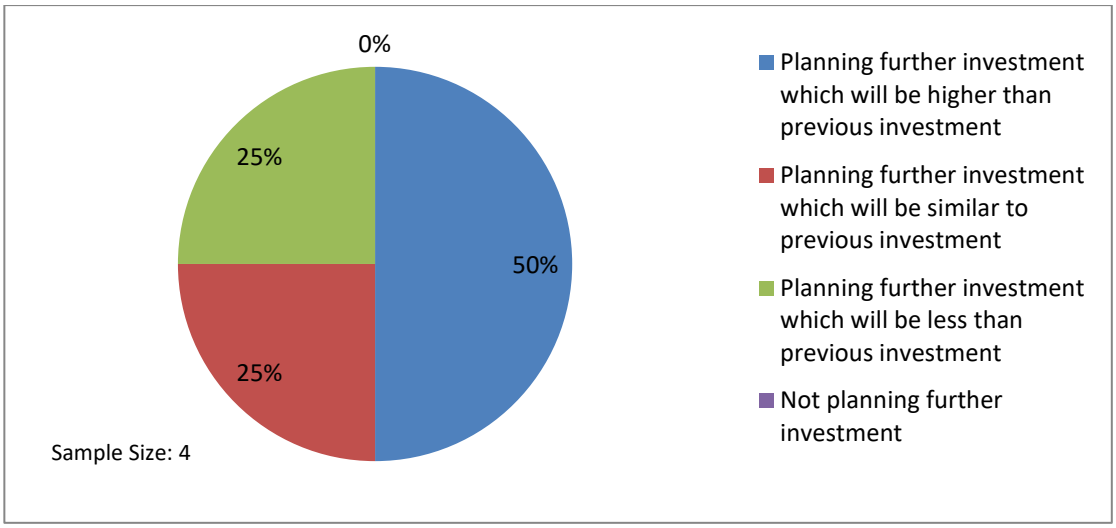
Question: Which environmental factor(s) does the Hong Kong subsidiary consider when making foreign direct investment decision? (Max 3 options)



Lastly, the future trend of OFDI from Hong Kong subsidiaries is shown in Figure A.8. Two companies mentioned the value of OFDI will be increased, while one company will reduce the investment, and one will keep the same level as before.

Figure A.8 Further investment plans for outward foreign direct investment from Hong Kong subsidiaries

Question: What are the future investment plans for outward foreign direct investment from the Hong Kong subsidiary?



B) Findings of Hong Kong subsidiaries owned by mainland private entities or individuals

552 sets of questionnaires were distributed to all listing companies which issue P-chips in the Hong Kong Exchange. Unfortunately, only 9 questionnaires were returned and the response rate is around 1.6 percent, and one of them has much missing data.

Background information of Hong Kong subsidiaries

The respondents of the private enterprises have a shorter history operating in Hong Kong SAR; four out of eight companies have been established for more than 6 years, and all of them have listed in HKEx for less than 10 years shown in Figure B.1 and Figure B.2.

Figure B.1 Duration of operation in Hong Kong SAR

Question: How long has the company been operated in Hong Kong?

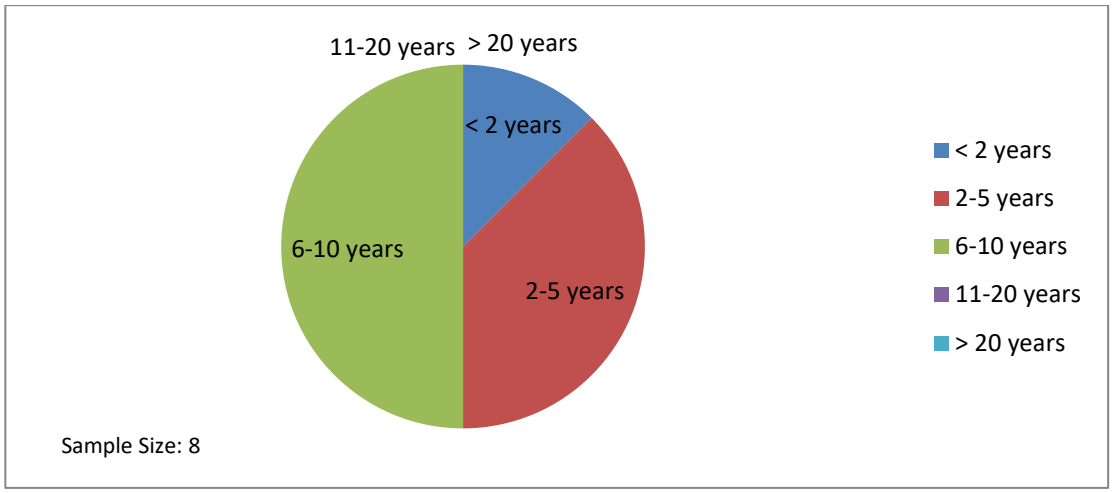


Figure B.2 Duration of listing in the Hong Kong Exchange

Question: How long has the company been listed in Hong Kong?

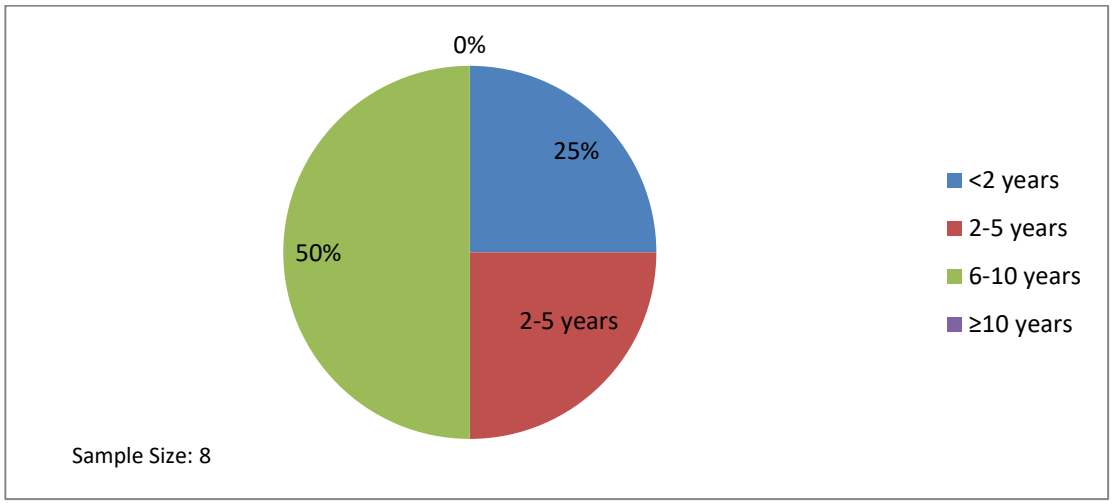
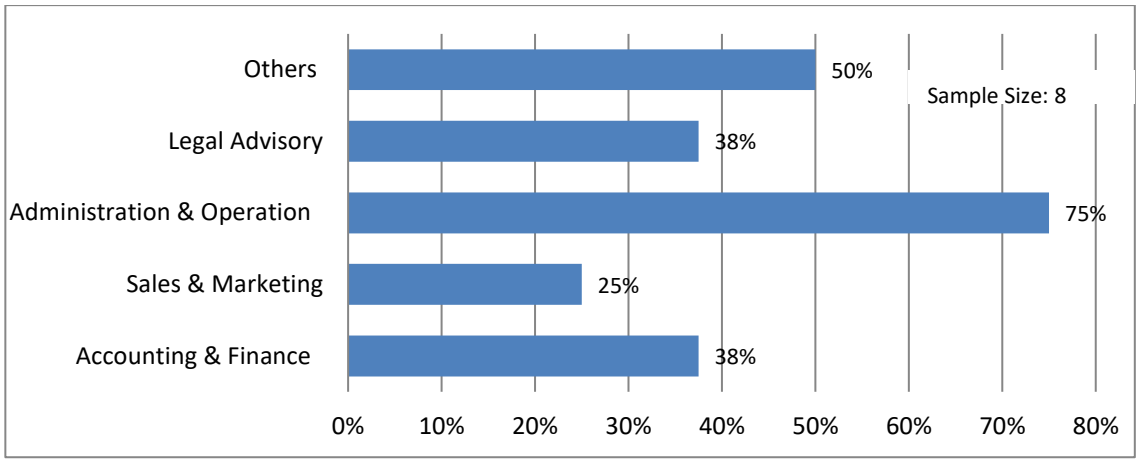


Figure B.3 shows three out of eight companies have accounting and finance departments in Hong Kong SAR for maintaining the daily operation of accounting, auditing and corporate finance. Six respondents also had administration and operation teams and four respondents had an investor relation team.

Figure B.3 Major business functions in Hong Kong operation

Question: What are your major business functions in Hong Kong?

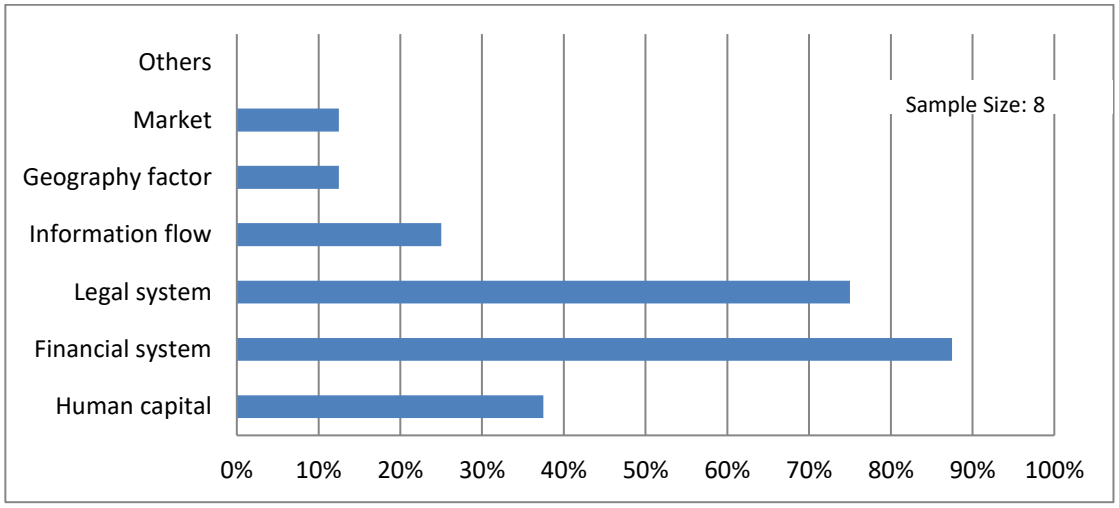


Factors considered in setting up Hong Kong subsidiaries

For the factors affecting the decision of investing in Hong Kong SAR, Figure B.4 shows that the private enterprises identified a stable and reliable financial and legal system are the key advantages of Hong Kong SAR. Seven and six out of the eight rank financial system and legal systems respectively are favourable factors for establishing a subsidiary in Hong Kong SAR.

Figure B.4 Favourable factors in Hong Kong for establishing a subsidiary

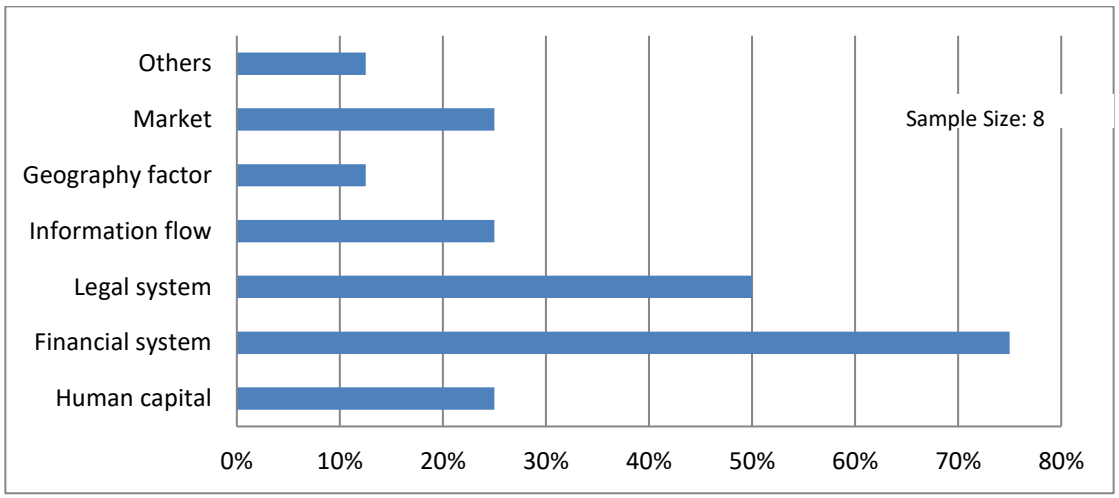
Question: What are the favourable factor(s) in Hong Kong for establishing a subsidiary? (Max 3 options)



On the other hand, these two factors are unfavourable factors in mainland China which push the investors to set up a subsidiary in Hong Kong SAR. Six respondents mentioned that their headquarters faced difficulties to access capital and four respondents were not satisfied with the legal system in mainland China, which are indicated in Figure B.5.

Figure B.5 Unfavourable factors in China encourage the establishment of a subsidiary in Hong Kong

Question: Are there any unfavourable factors in mainland China that encouraged you to set up a subsidiary in Hong Kong? (Max 3 options)



<u>Onward journey and round tripping foreign direct investment from Hong Kong SAR</u>

From an OFDI perspective, only two out of the eight companies have onward journey investments from Hong Kong SAR. Their objectives are providing goods or services for the overseas market, taking advantage of host countries' cost-structures, and meeting the request from the authorities of the overseas market. Both companies think that the government foreign direct investment policy and cost structures are the key motivation for onward journey investments.

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